Coresearch

A monthly publication for CSIRO staff

January 1976 200

Sirovilla opens for Christmas

The best Christmas gift for staff members of the Division of Textile Industry in Geelong was the sight of the first nine residents of the Sirovilla home for aged people celebrating the festive season in the new units of the project.

The first eight units were officially opened at the end of the year by the former Minister for Social Security, Senator J. Wheeldon. The eight in this stage of the project are the first of 40 planned for the site and have been completed at a cost of $130,000.

The money was contributed by the Australian Government and Geelong social and service groups with the scheme being organised by the Division's social club.

At the opening, Dr Don Taylor, President of the Sirovilla Committee of Management, said it was not possible in the time to name all the groups and individuals who had contributed financially and with labour but all had demonstrated the spirit of concern and compassion for the elderly that was embodied in the people of Geelong.

The Mayor of the City of South Barwon, Cr C.L. Dean, paid a tribute to the Division's social club where the project had its origin. The development, he said, would inspire the Council to look further into the matter of old peoples' homes.

Praise for the club also came from Senator Wheeldon when he performed the opening ceremony.

Each unit has three rooms and the design is contrived to give the residents privacy without loneliness. Recently the Lions Club of Geelong made a donation of $1500 to furnish one of the units.

The official party which inspected the units included (from right) the Mayor of the City of South Barwon, Cr C.L. Dean, Mrs Dean, Senator J. Wheeldon, Dr Don Taylor, Mr G. Watson, secretary of the project, and Mrs Taylor, and a number of visitors.

STOP PRESS

The election of a member of the staff as a part-time member of the Executive of CSIRO is in abeyance pending a decision from the Government on its general policy on the election of staff representatives to the governing bodies of statutory corporations.

New Director

Dr Paul Wild, Chief of the Division of Radiophysics, has been appointed Acting Director of the Anglo-Australian Telescope at Siding Springs. He will take over this position when the present Director, Dr E.J. Wampler, returns to the Lich Observatory in the United States in March, until a new Director is appointed.

New course for steno-secretaries

A new training course for CSIRO staff was inaugurated last month when eight steno-secretaries attended a three-day session of talks, films and discussions at the Division of Forest Research on such widely diverse topics as CSIRO research, the library system, Head Office administrative procedures, and grooming and deportment with a dash of psychology.

Any ideas that the course was to be a back-to-school exercise were speedily dispelled by the informal atmosphere which encouraged frank comments from all participants on their everyday work problems.

The objective of the course is not only to provide CSIRO secretaries with information they need but also to encourage them to look for greater involvement and satisfaction in their jobs.

Further courses will be held in Canberra this month and early in the new year when it is hoped to bring some participants in from inter-state. Courses are also being planned for Sydney and Melbourne.

BEAT THIS LOT!

Few Divisions will be able to upstage the National Measurement Laboratory with their jubilee year plans...they have managed to organise a total solar eclipse for 20 October.

The path of totality will pass across South Australia, Victoria and the southern coast of NSW. The eclipse is the last one which will be seen over land for the rest of this century.

A number of solar astronomers around the world are already planning to visit Australia at the time and local scientists are also designing experiments.

Dr Harold Argo of the Sandia Laboratories, USA, and his colleagues, who were involved in the eclipse high-altitude rocket experiments in Western Australia last year, were back in Australia in October on a preliminary survey to look for feasible sites for launching more rockets next year as part of their observations of the sun's corona.

Accompanied by Alan Driver, NML, who will again co-ordinate the experiments carried out under the US-Australian Scientific Agreement, the scientists visited a number of possible experiment sites.

Albany has been selected as the place for the rocket launch and NML will probably do some white light photography from a site at Mt Gambier. The Division of Radiophysics is expected to use the same site for lower chromosphere observations.

Dr Ron Giovanelli who recently returned from a year overseas, will play a leading role in interpretation of the various experiments.

Albert Street Juniors

The eight members of a small exclusive club whose foundations go back to when CSIR was young and the Division of Forest Products was still a fledgling that hadn't left the nest at Albert Street, recently met for a social 'get-together.'

From the left, they are Eric Smith (Animal Health), Alf Watson (Chemical Technology), Jean Cameron, Harry Kloot, Alan Rosel (back), George Campbell, Norm Shores and Wallace Hastie of Building Research.

All of them joined Forest Products as juniors, were delighted to be offered jobs at the tail end of the great depression and all infiltrated the place without ever seeing a job vacancy advertisement (it wasn't done that way in those days).

Total years of service for the 'Albert Street Juniors' is 336, average 42, and no one has yet reached retirement.

...and for photographers

A seminar for all Divisional Photographers is being planned for May or June of next year. It will be held in Canberra. Details will be published as they become available.

CSIRO has $143m budget for 1975-76

The 1975/76 Budget provides a total amount of $142,925,288 for CSIRO's annual and capital expenditure, of which $120,727,400 will be provided directly by the Government, $14,626,729 by Rural Industry Committees and $7,571,159 by various other contributors.

Treasury funds

Of the amount of $120,727,400 from Treasury Appropriation, $99,100,000 will be for salaries and general running expenses, $19,827,400 for capital expenditure and $1,800,000 for repairs to buildings.

The allocation for salaries and general running expenses represents an increase of $11,716,784 over the actual expenditure for 1974/75.

This increase is based on a 'no-growth' situation and other than providing for fixed commitments associated with the establishment of the Division of Forest Research and the Australian National Animal Health Laboratory, makes no provision for the expansion of the Organization's research activities.

The inescapable increases sought by the Organization for 1975/76, in order to maintain the 1974/75 level of activities, amounted to $12,316,784. As a special measure of restraint Cabinet applied an across-the-board cut equivalent to 10 per cent of certain specified items such as travelling and subsistence; office requisites and equipment; stationery and printing; postage, telegrams and telephone services; advertising; and other incidental expenditure; and specifically a 10 per cent cut in overtime. This cut amounted to $600,000 and reduced to $11,716,784—the total increase provided against the following requirements:

- Increments, reclassifications, loading on recreation leave and salary adjustments arising from arbitration determinations, $4,134,284.
- Increased cost of goods and services due to price rises in the past year, additional postal and telephone charges, service costs for new accommodation, including cleaning, lighting and telephones, and other fixed commitments, $4,423,500.
- An amount of $588,800 to meet increased grants to such bodies as the Standards Association of Australia, the National Association of Testing Authorities and Research Associations.
- Provision of $3,127,000 for the establishment of the Division of Forest Research, which includes the research activities of the Forest Research Institute and harvesting and mensuration research groups of the Forestry and Timber Bureau. These groups were formerly part of the Australian Department of Agriculture.
- Provision of $43,200 for the increase in costs of salaries and general running expenses in establishing the Australian National Animal Health Laboratory for which CSIRO has the carriage of responsibility.

The capital allocation from Treasury sources is divided into three categories; works under the control of CSIRO, those controlled by the Department of Housing and Construction and those handled by the Department of Urban and Regional Development.

The first group of items total $2,765,000. This will be spent on developmental work at field stations, $700,000; the purchase of major items of laboratory equipment,$1,500,000; the Cyber 76 computer,$455,000; preliminary expenses associated with the planning and design of a fisheries research vessel,$110,000.

The second category includes $16,400,000 which provides for building projects under the control of the Department of Housing and Construction. $14,854,000 will be needed for buildings under construction at the end of 1974/75 while the remaining $1,546,000 will meet the costs during 1975/76 of new works to be started in the current year.

Those items costing more than $100,000 included in the 1975/76 New Works Program are:

The extension to the existing building for the Division of Cloud Physics, Epping, $550,000; site preparation and development for the Australian National Animal Health Laboratory, Division of Animal Health, Geelong, $4,000,000; conversion of administration area to laboratories for Minerals Research Laboratories, Garden City, $354,000; site works including replacement glasshouses and roadwork, Black Mountain site, $408,000; erection of store area for Division of Land Use Research, Black Mountain, $180,000; erection of laboratory building for Division of Mathematics and Statistics, Canberra, $775,000.

The acquisitions proposals which are handled by the Department of Urban and Regional Development include a house at North Ryde for the Minerals Research Laboratories; a 800 hectare property at Narrabri for the Division of Plant Industry; a quarter hectare area at Lower Plenty for the Division of Chemical Technology; the site for the Australian National Animal Health Laboratory; and a house at Highett for the Division of Building Research.

Other funds

The joint Commonwealth-Rural Industry funds provide a large part of the finance available to CSIRO from non-Treasury sources. In 1975/76 the total will be $14,626,729, most of which will be utilised for wool and meat research.

The various Rural Industry funds and the amounts that they will provide are:

Wool Research Trust Fund, $11,409,000; Meat Research Trust Account, $2,379,120; Wheat Research Trust Account, $259,238; Dairy Produce Research Trust Account, $243,021; Tobacco Industry Trust Account, $32,600; Fishing Industry Research Trust Account, $248,300; Dried Fruits Research Trust Account, $43,950; Pig Industry Research Trust Account, $11,500.

Only a small proportion ($430,900) of these funds relates to capital items. The remainder $14,195,829 will cater for salaries and general running expenses for current programs of agricultural research except in the case of the Wheat, Meat and Fishing Industries where funds have been provided for four new projects.

Other expenditure from grants and donations from commercial enterprises and Government Departments will amount to $7,571,159. This will cover a wide range of collaborative projects involving most of the Divisions.

Summary of Estimates and Expenditure for 1975-76

	Estimates 1975/76	Expenditure 1974/75	Increase
Under CSIRO control:	$	$	$
Salaries and general running expenses	99,100,000	87,383,216	11,716,784
Buildings, works, plant and development items	2,765,000	2,332,410	432,590
Total under Direct Control of CSIRO	101,865,000	89,715,626	12,149,374
Under Department of Urban and Regional Development control:			
Acquisition of sites and buildings	378,400	139,132	239,268
Under Department of Housing and Construction control:			
Buildings and Works	16,400,000	11,584,678	4,815,322
Furniture and fittings	284,000	249,713	34,287
Repairs and maintenance of buildings	1,800,000	1,263,634	536,366
Total CSIRO — Treasury funds	120,727,400	102,952,783	17,774,617
Contributory Funds:			
Salaries and general running expenses	18,615,380	17,235,293	1,380,087
Buildings, works, plant and development items	3,582,508	1,673,176	1,909,332
Total Funds CSIRO — All Sources	142,925,288	121,861,252	21,064,036

200th edition of 'Coresearch'

This is the 200th edition of 'Coresearch'. Originally it was planned to mark the occasion in a suitable way but because 1976 is the Organization's golden jubilee, it has been decided to leave our special souvenir issue until June, the official month of the jubilee.

Nevertheless, 'Coresearch' wishes to send greetings on its own birthday to all its readers who love us dearly and who wait with bated breath for each edition to appear.

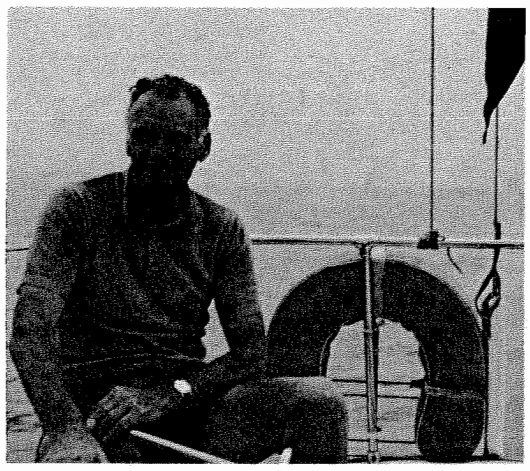
We send greetings, too, to the staff of the Printing Unit in Melbourne who produce the paper with unfailing care and frequently go out of their way to help us over rough patches when we have a crisis on our hands.

We send greetings to our guardian angels who watch over our typewriters and a curse on printers' gremlins who tinker with copy when they are abroad in the hushed hours of midnight.

We ask for understanding from our staff whose stories have been delayed because of the current shortage of space and promise to try to get all holdover material away within the next couple of months.

We look forward to having contributions in the coming year from our staff all over Australia, especially from those in remote areas and from those who are in the far-flung corners of the world, in places like Bogor and London, Moscow, Tokyo and Washington.— Editor.

On Chesapeake Bay



Dr E.G. (Taffy) Bowen, the man who originally headed the Division of Radiophysics and who is now Counsellor (Scientific) at the Australian Embassy in Washington, has chalked up another honour. This time he has won the St Michael's race on Chesapeake Bay in 'Sosie', his Morgan 30.

In his second season in the boat, Dr Bowen came close to winning the Commodore's Cup of the West River Sailing Club, Galesville, Maryland. Results included line honours in three out of four all-day races between West River and St Michaels in Chesapeake Bay.

Good year for ACT credit society

Laboratories Co-operative Limited, Canberra, has reported another satisfactory year's trading with the growth in capital investment proving particularly encouraging.

In its annual report, the society recorded a membership of 706, an increase of 60 on the previous financial year. While the majority of members are CSIRO staff in the Canberra area, the co-operative also has a growing membership in the states.

Moneys on deposit increased by a little over $175,100 (56 per cent) during 1974-75 and share capital and moneys held on deposit now total $496,400.

Loan transactions by the co-operative reached a record level during the year and in all 182 loans totalling $311,000 were made to members—the highest amount in any year since the co-operative was established in 1959. Because of the significantly large inflow of moneys deposited with the society it was possible to pay loans with a minimum of delay during the year.

EXECUTIVE OFFICER TAKES QUEENSLAND POSITION

After four and a half years as CSIRO's Executive Officer, Dr J.A. Allen is returning to his native Queensland in February to take up a position as Chairman of the Board of Advanced Education. The Board advises the Queensland Government on advanced education in the state (excluding universities), approves courses and degrees for colleges of advanced education, and recommends recurrent and capital grants to the ten colleges.

As the 'chief bureaucrat' in CSIRO, Dr Allen is probably more aware of changes to CSIRO during his stay than anyone else. Although he is reluctant to talk about the merits of these changes and about CSIRO's future, Dr Allen believes that CSIRO 'has a lot of very great virtues'.

'CSIRO has a formula which has been largely successful—but it is in danger of being too conservative. The Organization must look very carefully at itself to make sure that it is not getting into a self-satisfied and self-perpetuating state', he said.

Ministers

But the biggest change apparent to Dr Allen is the increased interest of Ministers in the day-to-day running of the Organization, especially since December 1972. From January to August last year, for example, 600 items from the Minister requiring responses and 300 items initiated by CSIRO to the Minister passed across Dr Allen's desk.

This degree of ministerial contact was a new experience for Dr Allen. Before joining CSIRO he had held positions as Professor of Chemistry and Deputy Vice-Chancellor at the University of Newcastle, and as a consultant to ICI in Melbourne, and none of these jobs involved ministerial requests at 10 o'clock at night!

In fact, one of Dr Allen's only previous contacts with politicians took place while he was at school during the depressed years of the early 1930s.

'The local state member of parliament had a big open tourer car, and now and again he would go down to the fish markets and buy up cases of fish if there was a glut.

'He would come to the school and we would all be paraded. If your father was in work, you stood firm, and if he wasn't, you stepped forward and received a sheet of newspaper and a fish. I have always remembered that', said Dr Allen.

Dr Allen does not mention whether this experience left him with a good or bad impression of politicians, but the fact that he stayed at school because there were no jobs available, and because it was about the only thing to do, has made him forever conscious of the plight of unemployed school leavers.

This concern showed itself in January 1975 when, for the first time in recent years, school leavers were beginning to have problems finding jobs. Dr Allen proposed that CSIRO should take on 100 school leavers for a year's training as technical assistants, and suggested that the Government provide special funds.

'It struck a bell with Mr Morrison, the then Minister for Science, and the Cabinet submission was written and passed within a day. It was the fastest thing that's ever been done—Treasury and Labor and Immigration only found out about it afterwards', said Dr Allen.

Of those 100 school leavers taken on, some have since been absorbed into the Organization.

However, Dr Allen's greatest satisfaction is that, despite many outside assaults on it, CSIRO is still afloat and relatively unscathed. Dr Allen cites the minerals crisis as an instance when he probably drafted every official document himself.

'An awful lot of them seemed to be done at home on my own typewriter. This is why you will find some very irregular typing in ministerial letters at that time', he said.

Education

One area which Dr Allen believes CSIRO should be giving more attention is its communication with the public as a whole, and with school children and their teachers in particular. He feels that CSIRO should, among other things, aim to present its work and achievements in a form acceptable in the classroom situation.

At the moment Dr Allen is preparing a talk entitled Science, Energy, and Food for students and teachers at the next ANZAAS meeting in Hobart.

'I quite like doing this sort of thing. It is a challenge to try to present complex material in a context which is acceptable to a particular kind of audience', he said.

Dr Allen sees himself as 'a bit of a pioneer'. He helped establish the University of Newcastle, is a founder member of the Academy of Technological Sciences, and was one of a small group of people who built up the ICI research laboratory in Melbourne.

'I guess I have a preference for new situations as distinct from very mature ones', said Dr Allen.

FRENCH VISITOR

A recent visitor to Brisbane and the Cunningham Laboratory was M. J-G. Eriau who is the French High Commissioner in the Pacific Ocean and New Hebrides, Governor of New Caledonia and Dependencies.

Discussions with Dr E.M. Hutton, Dr E.F. Henzell and colleagues in the Division of Tropical Agronomy centred on the value of scientific collaboration and information exchange. New Caledonia is just north of the Tropic of Capricorn and scientists there are keen to extend to new environments the principles of tropical pasture research studied by CSIRO.

Picture: Dr C.S. Andrew, M. J-G Eriau, Dr E.F. Henzell and Dr L. 't Mannetje examine grasses in one of the glasshouses at the Cunningham Laboratory, Brisbane.

SAFETY NOTES

Microwave ovens need special care

A number of CSIRO staff have bought microwave ovens for use in their homes.

Head Office Safety Officer, Jack Hallam, recommends that owners should take note of the following safety rules. They were prepared by CSIRO's National Measurement Laboratory.

All microwave ovens sold in Australia comply with a rigorous test specification. Some ovens on sale in other countries do not meet this specification and are not sold in Australia. Therefore, if you purchased your oven in another country, check that it is an approved model.

Surveys show that the majority of approved ovens do not leak unduly even after several years of normal domestic use.

CSIRO has developed a cheap tester to enable the user to check her oven at any time, but it is not yet available to the public.

The following precautions should be taken.

When the oven is operating, all persons should keep at least one half metre distance, and preferably an arm's length away—tests show that if there is a leakage of radiation, it is usually at an edge of the door, but it loses intensity so rapidly that even a bad leak is greatly reduced at an arm's length.

Children should never be allowed to put their faces close to the oven door while the oven is heating as the eyes are particularly vulnerable to microwave radiation.

Keep the doorseal clean.

Never put anything into ventilation openings through the door, particularly metallic objects such as a skewer.

Do not operate the oven when empty. It reduces the life of the expensive generator.

Do not operate a damaged oven and make sure door hinges and catches have not worked loose.

Make sure the automatic interlock, which switches off the heating power when the door begins to open, is operating. If it isn't, the oven is dangerous and must not be used until repaired.

Repairs to microwave ovens should not be attempted by the handyman—when the covers are removed, the oven is much more hazardous electrically than the normal domestic appliance.

Microwave radiation should not be confused with atomic radiation. Microwave radiation is much more like ordinary heat, except that it penetrates more deeply. There is no residual radiation in the food after cooking.

It is desirable to have your oven tested at intervals, the time depending on the amount of use.

New WARO set up in Perth

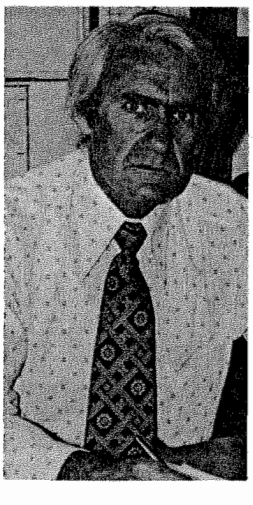
New administrative arrangements have been made for CSIRO in Western Australia. The State will now have its own Regional Office—to be known as the Western Australian Regional Office—and it will be under the direction of Mr Jack Brophy, formerly the Administrative Officer for the WA Group Laboratories at Floreat Park in Perth.

The WARO will not exercise the full functions of the RAOs in the other States but it will operate in a similar fashion.

From 1 January the activities of the Floreat Park Laboratory will be the responsibility of the Chiefs of Land Resources Management and Mineralogy while administrative arrangements relating to Western Australia generally will be focussed on the WARO.

One of the reasons for the establishment of the WARO was to give assistance to those Divisions which do not have officers located in WA and to facilitate any administrative actions they may require in the State. All inquiries relating to travel and so on for such Divisions should now be made through the new group.

Until new premises are found, the WARO will continue to be located at Floreat Park but the group expects to move in the reasonably near future. Until further advice, however, telephone numbers and the postal and telegraphic addresses remain as before.



Jack Brophy

Roma Cocking retires

Roma Cocking, one of the best known personalities in CSIRO's Printing Unit at Collingwood, has retired from the Organization because of ill health. During her 16 years with the CSIRO publications group Roma came to know many of the staff throughout the country. They and her colleagues at CILES will miss her.

Apart from the helpful advice she gave to many people on matters relating to publications, Roma will be remembered always for her superb cordon bleu catering at various functions held at the Unit at Rokeby Street.

Among Roma's many official duties was the distribution of 'Coresearch' and the staff involved in its publication wishes her a speedy recovery.

Elected

Dr G.K. White, National Measurement Laboratory, has been elected Secretary of the Solid State Commission of the International Union of Pure and Applied Physics for three years.

Journal transfer

Arrangements for the transfer of the 'Australian Journal of Experimental Agriculture and Animal Husbandry' from the Australian Institute of Agricultural Science have now been completed. From 1 January 1976 the journal will be published by CSIRO but its existing editorial staff will continue to work for the present in Clunies Ross House, 191 Royal Parade, Parkville, Victoria.

Subscription enquiries should be addressed to the CSIRO Editorial and Publications Service, 314 Albert Street, East Melbourne.

'Coresearch'

'Coresearch' is produced by the Central Communication Unit for CSIRO staff. It is also circulated to some people outside the Organization who have a professional interest in CSIRO activities.

Members are invited to contribute or send suggestions for articles. The deadline for material is normally the first day of the month preceding publication.

Material and queries should be sent to the Editor (Dorothy Braxton), Box 225, Dickson, A.C.T. 2602. Tel. 48 4477.

Letters:

Redeployment—why and how?

Redeployment, the current euphemism for transfer of duties under pressure, is a term which today evokes insecurity and discord.

I suggested to Dr Price, when he addressed the ACT staff, that employees on Wool Funds now enjoyed status inferior to their colleagues employed on Treasury Funds. He stated that this was 'only in respect to redeployment.' A steer is the same as a bull, apart from a couple of details!

Change is necessary if stagnation is to be avoided. But it should be gradual, well considered and planned, a response to a need or an opportunity. Redeployment, as currently practiced, is a panicky response to an emergency. It hits one group of staff four times as severely as another. People are being pressured to change, and to change to work which, to them, may not be more useful, or more interesting or challenging.

'New and existing high priority programs' have suddenly become urgent. Could they not be considered somewhat less urgent, until the current uncertainty of Wool Funds, or other Funds, is reduced? It seems especially strange that Forest Research requires so many people so suddenly. Surely the Executive did not undertake this new responsibility without some guarantee of resources! People who are redeployed, under pressure are unlikely to be the 'right man for the (right) job', but the low priorities of some Chief's. Or is there something we have not been told?

A statement by Bruce Juddery is interesting in this connection (Canberra Times, 17 October 1975):

> 'The CSIRO, as a result of an administrative blunder, will be unable to pay salaries...after November 13... Earlier this year the CSIRO took over the Forestry and Timber Bureau from the Agriculture Department. ...It imagined Agriculture had provided for the needs of 255 bureau staff... Agriculture thought CSIRO would look after its new acquisition.
>
> Neither did, so CSIRO has to spread what it has across its total staff.'

I asked Dr Price if such a damaging statement could be refuted. He did not refute it! Is there any connection between this and the current 'emergency' and 'new initiatives'?

As a general principle redeployment should be a normal and continuing means of maintaining flexibility of research. It could be implemented by requiring each Division to surrender, to a central pool, say two positions in each four or five which become vacant. Divisions could submit bids for support for new initiatives, or existing high priorities, from this pool. Redeployment, applied as it is now as an urgent measure, with certain groups being more heavily hit than others, is a source of insecurity and hardship. It will probably also be a cause of frustration and inefficiency for years to come.

F.H.W. Morley
Plant Industry

Because of its interest to all CSIRO staff, the Editor has given me the opportunity to comment on Dr Morley's letter.

In recent weeks I have gone to some pains to explain to Chiefs and indeed, to all staff, the nature of the staffing and financial problems we currently face. A detailed report of my talks to groups of staff was published in the December edition of 'Coresearch'.

I hope I have made it quite clear that redeployment is unavoidable because of

- the certain shortfall in funds available from the Wool Research Trust Fund in 1976/77
- the need to redeploy resources to new and existing high priority activities in the face of a no-growth situation.

It is true, as Dr Morley says, that the Executive is using the technique of redeployment to respond to an emergency situation; but let me assure Dr Morley and other staff in need of such reassurance that there is no element of panic involved.

The Executive is probably even more fully aware than Dr Morley of the difficulties for staff in any redeployment exercise. But I want to say quite bluntly that there are no real alternatives except to retrench staff or for the Executive and staff of CSIRO as a whole to ignore their responsibilities to utilise the resources made available to us in a way which will best serve the interests of the nation.

The present situation does contain harsh elements and I and the Executive want all staff to clearly realise this. It is not a time to bemoan what was or what might have been; or with Micawber to sit back and wait for something to turn up. It is a time to face up to reality and to learn to live with a difficult situation that is forced on us by circumstances outside our control.

As to the report in the Canberra Times of 17 October, I acknowledged at the meeting in Canberra in response to Dr Morley's question, that it was a fact that, due to a misunderstanding, neither CSIRO nor the Australian Department of Agriculture had initially provided funds for 1975/76. However, the statement that CSIRO would be unable to pay salaries after 13 November was not correct. Arrangements had been made with the Treasury which would have ensured that even if the Supply crisis had continued beyond 11 November, all CSIRO staff would have received salary payments at least until the end of November. When Dr Morley says I did not refute the Canberra Times statement, I presume he is referring to the fact that I did not see fit to enter into public debate with the press on the issue. There is certainly no connection between that incident and what Dr Morley labels as 'the current emergency' and 'new initiatives'.

Finally, it is necessary for me to state that the Executive is not, at the moment, allocating additional positions to the Division of Forest Research. It did decide, however, that the Division should fill its vacant positions.

J.R. Price
Chairman

Dear Editor,

I said to my husband Bill (see Backlash, October issue) that I would like to apply for the position on the Executive and did he know what the job was paying. He said no and so I presume it would be about $30,000 p.a. It could come in handy as we are still furnishing the house and need a new car. He reminded me that the 'Bra Burning Season' finished at the end of last year and that the political climate might go a bit cool on Women's Lib. Anyway I notice that only union members can vote so how can it be a *staff* vacancy. Anyhow, probably John Half a Penny will have been decided on by the ACTU already.

Yours truly
Ms Backlash
Food Research
Melbourne

Maternity leave

When a man fathers a child, he does not lose any part of his salary in the process. When a woman decides to become a mother she faces the loss of several weeks of work, and until recently, the loss of pay for the same period and in some cases, the loss of job also. Besides this she goes through the weariness of carrying the child and the pain of parturition. Whatever we do, in our attempts to give sex equality one sex will always remain, in Orwell's words 'more equal than the other'. Maternity leave on full pay is an attempt to narrow the gap of inequality.

Bill Backlash and his relatives will probably never accept the principle, but even those who do must realise that the general acceptance of the principle is not enough.

In an organisation employing a sufficient number of women in relatively similar positions, the loss of one woman's work due to maternity leave can be absorbed. Where the position is a specialised one—as the case of a Research Scientist with one female technical assistant—the loss of that technical assistant's assistance during maternity leave can have a crippling effect on a research project.

This happened in my own Division and no funds were available to employ temporary assistance for the period. It is such situations that produce the reaction 'no women likely to become pregnant need apply.'

The attempt to give equal treatment to the sexes through the introduction of paid maternity leave will only succeed when the cost of the temporary replacement of the staff involved is provided in the budget of the Organization.

Such provision can be made easily in the Public Service, and the cost passed on to the taxpayer. It can also be made in large firms, and the cost passed on by increase in the costs of their products or services, as was the case when 'holidays with pay' were introduced.

It is almost impossible to introduce it into a private business employing only a few people unless some provision is made by the national government to meet the cost of the temporary replacement.

If we accept the principle, we should also accept the costs of bringing it into practice.

E.G. Hallsworth
Chairman
Land Resources Laboratories

This letter was referred to Head Office for comment. They advised that although the Organization's financial resources are limited, in more recent times it has been possible to make certain arrangements to cover the cost of temporary replacements for women absent on maternity leave. In the case of programs supported by Treasury Funds, where the recurrent casual labour allocation included in the Annual Estimates of each Division or Section proves to be insufficient, Divisions and Sections may in most circumstances draw upon a special 'reserve' fund, which was established by the Executive in 1973 and is presently administered at Head Office. In the case of programs supported by non-Treasury funds, the cost of the employment of additional temporary assistance would have to be met by the contributor—Editor.

I read the commendable article in the December issue of 'Coresearch' relating to the career and retirement of Ray McVilly.

You refer to the longer service of Jeff Foley and Phil Knuckey who 'so far as is known were the only two other members who were there when Ray started' (on 7 July 1930).

You will be interested to know and to note in your records, that two members of this Division antedate Ray. These are Doug F. Graham, who has been continuously on staff since his appointment on 16/1/28 and H.J. Lee who was originally on a part-time appointment from 20/2/28 and transferred to a full-time appointment on 7/7/30—the same day as Ray McVilly started.

A.T. Dick
Division of Human Nutrition
Adelaide

Noise

The picture on page 3 of Coresearch 198 shows seven people on a Canberra rifle range observing a demonstration of firearms, without any obvious precautions having been taken to protect their hearing.

Would the Safety Officer care to comment?

D.L.H. Gibbings
Acoustics Section
National Measurement Laboratory

If the people concerned were using firearms regularly ear muffs should have been worn. However, people can stand high levels of noice, such as occurred at the demonstration referred to, for a short period.

J. Hallam
Safety Officer

Look out Trevino-here comes swinger Dawson

The Division of Land Use Research was faced with a difficult problem. In a small area directly west of the suburb of Belconnen in the ACT more than 2000 soil surface samples had to be collected within five hours so that comparable results could be obtained with the least possible climatic changes that can often occur from one day to the next.

For months the Division had been scratching its head on how to overcome this problem, until one day Vern Dawson, with nearly 25 years of Divisional experience, came up with the idea of luring as many volunteers into the project as possible by offering a special trophy for the best performing volunteer.

The team leader, Jack Cavanagh, immediately set to work on the plans and after several weeks managed to get 28 volunteers.

These included two women, who retreated at the last minute when they realised that the sample collection would have to be done under rainy conditions.

The males, though, braved the weather, each equipped with a sample stick and a white marker. The latter was to be hit by the former in a random direction, and a sample was to be collected wherever the marker landed. By 5 pm well over 2800 samples were thus obtained.

In view of the very wet conditions it was not surprising that the Hydrology Group distinguished itself that afternoon. One member managed to make the highest number of soil inspections, 144 in fact. Another member got his marker in the least random direction, while a third member collected 125 samples in spite of the fact that he had never had a sampling stick in his hands before.

What nobody had realised beforehand was that Dawson's trophy, the 'Vern Urn', was going to be given to the laziest volunteer. He turned out to be Mike Moncur, who collected only about half the number of samples compared with the hardest worker.

Vern Dawson and Jack Cavanagh are to be congratulated for making this project, as well as the social event afterwards, so successful.

Coresearch

A monthly publication for CSIRO staff

February 1976 201

CSIRO archivist makes a plea:

'Please don't shred our history'

CSIRO's archivist, Mr Kevin Green is concerned that staff members may inadvertently put part of the Organization's historical records through the shredding machine. His plea is for staff to hold on to historical material until they have consulted him about its value.

Appointed to the position of archivist last year, Kevin has spent his first few months with the Organization familiarising himself with early records.

He quickly discovered that being an archivist in an organisation such as CSIRO was no sinecure. 'The structure of the place with its Head Office and Divisions scattered so widely over the country differs greatly from say a university or even a government department to start with,' he commented.

'Then you have to take into account the individual outlooks of many different people—different scientists have different ideas on what should or should not be kept.'

For an archivist the decision on what should or should not be kept can be difficult, for Kevin believes that records are not simply a matter of historical interest or useful for research purposes; in an organisation like CSIRO they also concern the history of good administration.

'It's hard to predict our future needs,' he said, 'and I'm concerned that people can throw out material which may be valuable to others without thinking of what they're doing except getting rid of something they think is rubbish. Before they throw things out I'd like them to get in touch with me.'

How to catalogue and where to store the material pose an almost equally complicated problem for Kevin. At the moment most of the old Head Office records are kept in Government stores at Maribyrnong, and Kevin has spent many cold hours there working on them. There is justification for having some of the material easily accessible in Canberra but available space is not easy to come by, nor is it secure enough to suit Kevin's cautious attitudes.

Maribyrnong stores

Initially, Kevin has concentrated on making himself familiar with what is in the store at Maribyrnong and at Albert Street in Melbourne. He is also gradually getting around the Divisions. Already he has found a wealth of fascinating old records, reports, photographs, press cuttings, books and journals. These date back not just to 1926 and the founding of CSIR but much earlier to the days during World War I when Australia first made its moves to set up a scientific research body.

Photographic collections depict the people who laid the foundations for the Council, They show the new laboratories as they were gradually built and give a record of research programs as they were initiated.

Old documents reveal such treasures as a copy of the first Science and Industry Research Act of 1926 in its draft form with annotations over it in pencil and red ink, some of which are in the handwriting of Sir David Rivett.

Usage

Quoting a couple of instances of how archival material can prove useful, Kevin spoke of the records he found relating to a land resources survey of Papua New Guinea. 'These could be very important in the time to come to Papua New Guinea as background material for future studies,' he said.

Another instance concerned a collection of aerial photographs taken many years ago of the South Coast for a fishing project. Recently they turned out to be exactly what someone wanted. New pictures taken from the same location allowed scientists involved in another research program to see exactly what changes had been made along the coastline in the intervening years, data that would probably have been impossible to produce by other means.

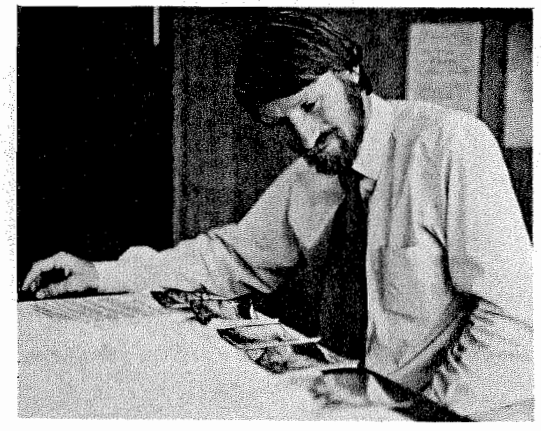
First choice

For an archivist, of course, it's all a revealing picture of history and Kevin says it's just as well he has no aspirations to be a writer. If he had, little work might get done—it would be hard for an author to pass up the opportunity and he might take years to get beyond the first few shelves at Maribyrnong.

What made Kevin become an archivist? Certainly it was not his first choice. He wanted to be a professional cellist but an accident to his hand put an untimely end to that aspiration.

The study of history at University proved a satisfying substitute and from there it was not a great step into archival work.

He held positions both in Tasmania and Papua New Guinea before coming to Canberra to join the ANU staff, then early last year Kevin transferred to CSIRO.



Kevin Green looks at some of the historical photographs he has found during his search for archival material.

New Chief appointed to Textile Industry

Dr Don Taylor who has been a member of the staff of the Division of Textile Industry in Geelong since 1951, has been appointed to the position of the Division's Chief. He replaces Dr M. (Pip) Lipson who retired from the Organization on 15 February.

Dr Taylor joined CSIRO as a research officer with the Wool Research Laboratories in 1951 but between 1952 and 1954 he worked with the Wool Industries Research Association in Leeds in the UK under the CSIRO Traineeship Scheme.

He returned to the Division in 1954, becoming a chief research scientist in 1972.

Among major research projects which Dr Taylor has been involved in are the physics of fibre assemblies, friction and drafting; autolevelling and combing; alternative methods of processing; high speed spinning; and wrinkling.

In recognition of his work to textile science and technology, Dr Taylor was awarded the 1970 Warner Medal.

Outside work, he takes a keen interest in community affairs and is President of the Sirovilla Elderly Peoples' Homes Society.

He is also the community representative on the Advisory Council of Matthew Flinders High School and the Divisional representative in the Geelong Businessmen's Club.

Tourist attraction

Hardest working individuals in CSIRO over the holidays were probably Les Fellows and Gladys Page who staff the Visitors' Centre at the Parkes radio telescope.

Thousands of people passed through the Centre during the holidays, peaking at 1067 on 27 December and 900 on 28 December.

Nine out of every 10 saw the audio visual presentation which had to be screened every half hour to cope with the crowds. Most of those who did not go into the show only missed it because of lack of time—the presentation lasts 27 minutes.

Les and Gladys had to cope with the crowds, answer thousands of questions and keep an eye on the audio visual equipment. In addition, they sold 1000 copies of the beautiful Parkes poster, a figure which surpassed all hopes for the Centre's enterprises.

Chiefs at function

Not everyone on his retirement can have among his well-wishers all of the Chiefs under whom he has served. Yet that is what happened when Dr A.C. Oertel of the Division of Soils retired recently. Among those present were Dr J.A. Prescott, Chief of the Division from its establishment in 1927 until 1947, Mr J.K.Taylor (1947-1963), Dr T.J.Marshall (Acting Chief 1963-1965), Dr E.G. Hallsworth (1965-1973) and the present Chief, Dr A.E.Martin.

In the 1930s Dr Oertel played a major role as an arc-spectroscopist in unravelling the complexities of nutrient deficiences of field plants in southern Australia.

These investigations contributed to the publishing of the first report of molybdenum deficiency in the field by Dr A.J.Anderson, now of the Division of Plant Industry.

Later he turned his attention to furthering the understanding of the processes involved in soil formation.

New CILES service

Scientists and other interested people both in Australia and overseas who want to know how to locate the place where certain research projects are being undertaken can now get the information they require quickly by referring to the 1975 edition of 'Scientific and Technical Research', a publication which has recently been distributed to Divisional libraries.

Edited by Ian Crump of CILES the material is also on computer file for a more efficient service.

CILES is also to introduce its new Information Service leaflets within the next few weeks. Prepared by the Information Service in association with the Central Communication Unit, the leaflets will help Divisional librarians and information officers to meet the ever increasing demand from the public for material on CSIRO activities.

The first leaflet will be on solar energy and will update the one previously available in 'The Researchers' series.

When a forest fire occurs, the cost to the industry is high; the cost to property and life is sometimes higher still.

Members of the fire team at the Division of Forest Research keep a watchful eye on a controlled burn in a pine forest.

Pictures: Allan Edward

CSIRO's 'gentle pyromaniac' has lit 1000 forest fires

If a person deliberately starts a forest fire, does that automatically make him a pyromaniac? Mr Alan McArthur of CSIRO's Division of Forest Research hopes not, because he has started over 1000 of them.

Alan has been connected with the fire problem for 30 years. After a spell as the first fire officer in the Snowy Mountains district, he chalked up 22 years of research with the Forestry and Timber Bureau before its transfer to CSIRO.

In an average year, fire sweeps through about 0.8 per cent of Australia's forest area, severely damaging an estimated 20 000-40 000 hectares. The cost to the timber industry is high in terms of destroyed trees and loss of tree growth; the cost to property and life is often higher.

Forest management places such an emphasis on fire behaviour studies that Alan's research team is one of the largest groups operating from the headquarters in Canberra. The team is concerned with predicting the spread of fires under certain conditions of fuel and weather, and also with survival in fires.

Experiments

Much of the team's work involves burning experimental fires. Some 8 000 hectares of land in the Northern Territory are currently being used in a tropical project, with 200-hectare blocks being burnt at a time.

One of the dangers with experimental fires, of course, is that they may escape from the assigned area. So, in addition to a field team of at least 10 people, just as many fire-suppression personnel are generally on hand with tankers and bulldozers.

It would be disastrous to the research program if a fire ever ran out of control, but to date not one has got away.

When a fire is lit the team records its progress at minute intervals using metal markers. All fires start slowly, accelerate for a while, and then reach a steady state. A fire in wheat stubble, for example, takes about five minutes to reach a steady state of spread, while one in a eucalypt forest takes half an hour or more. The team draws up maps of the fire's progress which look very much like contour maps.

They also measure the air temperature, the relative humidity, and the wind velocity, plus the moisture content of the fuel and its quantity, height, packing ratio and other fuel characteristics.

Improvements

Alan has burnt savannah grassland in the Northern Territory, pine forests in Fiji and various parts of Australia, and a variety of eucalypt forests throughout the country.

One result of this work is that foresters no longer throw up their hands in horror at the thought of burning in pine plantations to reduce fuel on the ground. Burning can be controlled if proper care is exercised, and, in fact, it can even increase the growth rate of many forests.

Some eucalypt forests which have not experienced fires for 30-40 years show signs of site deterioration. Under tropical conditions, litter in eucalypt forests decomposes rapidly to recycle nitrogen and phosphorus, but decomposition rates are much slower in temperate climates. It seems that fires are necessary in these climates to promote nutrient cycling.

Another direct result of the experimental fire studies involves sugar cane. Regulations in Queensland once stipulated that sugar cane could only be burnt between 6 pm and 6 am because of the greater fire danger during daylight.

A research group led by Mr Phil Cheney laid down conditions under which cane can be burnt safely during normal working hours. These conditions have been incorporated into new legislation and operate to the financial gain of the farmers.

Alan has also come to the aid of the local authorities which issue daily fire weather forecasts. He has devised a meter which takes into account wind velocity, relative humidity, air temperature, and other variables to produce a fire danger rating which gives the probability of a fire starting, its rate of spread and damage potential. These danger ratings are used by the Bureau of Meteorology throughout Australia.

Members of the fire teams always wear a hard hat and the best possible safety clothing during their work. Even so, although flame-proof overalls may not catch fire, they can smoulder and cause burns if the smouldering is not noticed. Accidents also occur occasionally.

'We've broken a few noses with falling branches, but that's always a risk,' Alan said.

Exhausting

One of the biggest problems with working in the tropics is heat exhaustion due to excessive loss of body fluid and lack of salt. The men take salt tablets and drink litres of water, but their work output in the tropics is much less than in the cooler temperate regions.

'Firefighting is a dangerous occupation, and personnel on the fireline must be aware of the ever-changing situation. Unexpected wind changes and fire whirlwinds must always be watched for.

'Even after 30 years in the business, any fire causes some sense of apprehension, especially when you know all the risks involved,' Alan said.

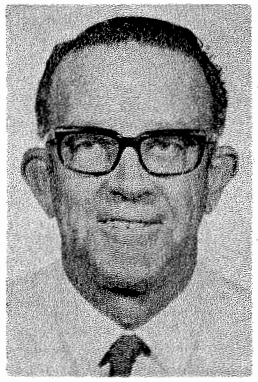
Members of the team are always in some danger when testing new survival equipment. For example, an item of clothing from America consisted of aluminium foil bonded to fibre glass. The foil stood up to the heat of a fire satisfactorily, but the bonding material decomposed and gave off a toxic gas!

In another case, a researcher received second-degree burns when the protective clothing failed to protect. Fortunately, colleagues with water and rescue equipment acted quickly.

Tests by Alan's team in Canberra have proved conclusively that when you are trapped by a bush fire while driving, the safest place to shelter is in your car.

The petrol tank will not explode so long as it is reasonably full of petrol. The tests showed that a family can safely spend up to five minutes in a car, with the windows shut, until the fire passes. Protection with a blanket or rug also helps.

One of the difficulties facing the fire research team is getting its findings into operational practice. It can take over 10 years for new fire-control tactics and equipment to be accepted, but although this delay is often frustrating, the team knows that ultimately its work will benefit all branches of the community.



Alan McArthur

HELP!

Staff have been warned of a tough year but we weren't told it was as bad as one Divisional Newsletter would have us believe. We quote:

Officers travelling to UK or Europe

Would all officers travelling in UK or Europe please inform the Australian Scientific Liaison Officer in London of their itinerary. This will help ASIO to redirect mail, and arrange possible contacts.

Radiation conference

The first annual conference of the Australian Radiation Protection Society will be held in Sydney on 10-12 May at the University of New South Wales. The scientific program will include both review and technical papers covering a range of radiation safety topics.

Offers of papers should be forwarded to Mr J.C.E. Button, Controller Safety, AAEC Research Establishment, Private Mail Bag, Sutherland, NSW 2232. Further information is available from Dr R. Rosen, Radiation Protection Officer, University of New South Wales, P.O. Box 1, Kensington, NSW 2033.

Albert St identity retires

Les Graham, well known House Manager of CSIRO's Albert Street property, has retired after 36 years service with the Organization.

Les transferred to CSIRO from the Postmaster-General's Department where he was employed as telegram messenger and later as storeman. His tales of delivering telegrams to some of the more questionable parts of the city are hair raising.

His very generous nature and spirit of helpfulness earned many expressions of gratitude, and one that he values highly is the award of the British Empire Medal for public service.

He inspired confidence. His 'It's Les you're talking to, leave it to me' made one feel that the job was already done.

Social Club members in Head Office, prior to their Canberra move, and in the Melbourne RAO and associated units knew Les as a good organiser of good cheer, but few realised the unremitting efforts that he made to make every function the success that it was.

Apart from his work, his interests have been many and varied. Umpiring cricket, supervising polling booths, orchid growing, fishing, concrete laying and talking were just a few of the many facets of his life outside work.

Colleagues expressed their best wishes both to Les and his wife, Leonie, at farewell speeches.

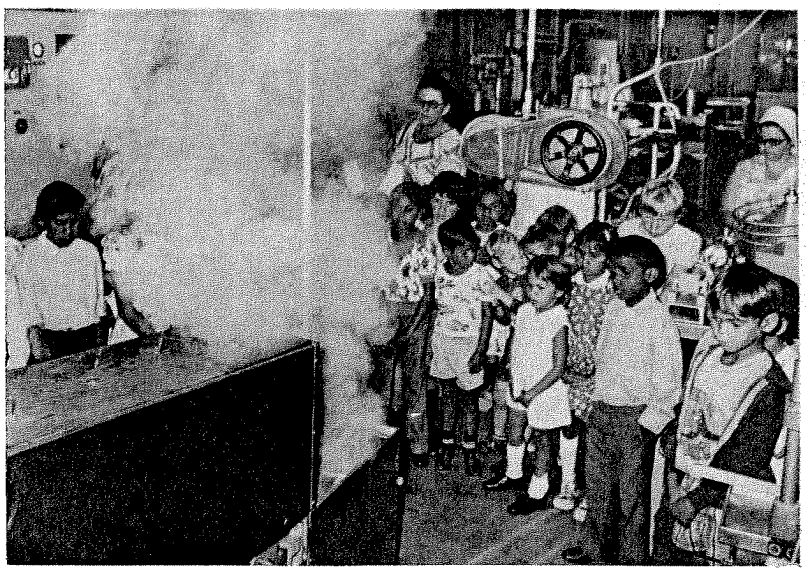
For your information

Information circulars

75/97	Head Office directory	27.11.75
75/101	Superannuation Act 1922-1974 Non-contributory units	19.12.75
75/104	Administrative arrangements Western Australia	18.12.75
75/105	Appointment of Chief—Division of Human Nutrition	30.12.75
76/2	Acting Chief, Division of Wildlife Research	6.1.76
76/3	The Nuffield Foundation—Commonwealth Travelling Fellowship and Study Awards for 1977 (close 27.2.76)	9.1.76
76/4	Appointment of Chief—Division of Textile Industry	9.1.76
76/5	Queen Elizabeth II Fellowships—Physical and Biological Sciences	16.1.76
76/6	Authorised holidays 1976	29.1.76

Policy circulars

75/51	Election of member of Executive by staff of CSIRO	6.11.75
75/58	T & C of Employment Paragraph 62—overseas visits	31.12.75
75/59	Salary scales	15.12.75
75/60	Annual leave loading	4.12.75
75/61	Not issued	
75/62	Air travel—insurance of 'air crew' staff	18.12.75
76/1	Living away from home allowance Canberra boarding allowance	15.1.76
76/2	Election of a person to be recommended for appointment to the Executive of CSIRO	6.1.76
76/3	Car or cycle allowance	16.1.76



Food Research photographer Bill Rushton captured this picture of the children from the Engonnia school when they visited the North Ryde labs.

Children visit Food Research

When 40 children from the public school at Engonnia, a settlement 100 km north of Bourke, visited Sydney they included the Division of Food Research in their itinerary.

The school, which has an enrolment of about 50 children, half of whom are Aboriginals or of Aboriginal descent, is supported by the CSIRO North Ryde Community Aid Group.

Throughout the year the group has continued its support of this school and has sent the children books, both new and second-hand, and two consignments of musical instruments.

Members were also instrumental in obtaining a Christmas shipment of 150 toys for the school through the assistance of the St Ives Public School P and C Committee which had learned of the group's involvement.

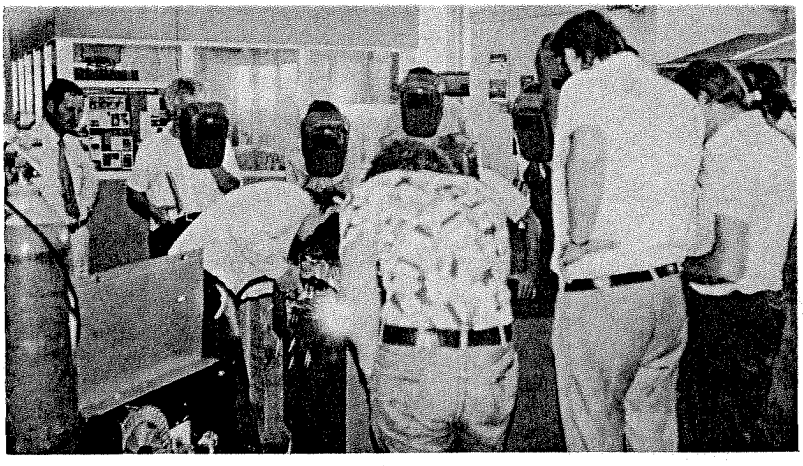
The Engonnia school however is only one of the interests of the group which has 180 members from Food Research, Mineral Chemistry and Process Technology in its ranks.

Members raise about $1000 annually to distribute to different local and overseas aid schemes. Through CAA, the group is contributing $755 for 12 young men from the village of Dehiowita in Sri Lanka to work for a year on a training farm, learning animal husbandry, crop cultivation and handcrafts.

It has recently finished paying off school buildings at Toriyo in Java and a donation of $250 was made to help produce a film 'Five Minutes to Midnight,' a worldwide study of poverty which is to be released for international television screening shortly.

In the past the group has supported the Aboriginal Education Council but this work has now been taken over by the Ministry of Education. It has also made donations to the Drug Referral Centre for the purchase of two tape cassette players, to the Young Peoples' Refuge for a washing machine and vacuum cleaner and has given assistance to a number of small projects.

. . . and now Siroman



The men behind the iron masks are representatives of 13 Divisions who were in Melbourne for a two-day welding training program at Commonwealth Industrial Gases.

Organised by Alan White for the Technical and Trades Training Committee of Victoria, and financed by CSIRO's Training Section, the course was designed to familiarise technicians in modern welding processes. Those attending were: Frank Leons (Animal Health), Ron Kajewski (Applied Geomechanics), Chris Tsiantikos (Applied Organic Chemistry), Brian Turner (Atmospheric Physics), J. Wilson (Building Research), Harry Reoloffs (Chemical Physics), Len Congdon and Colin Horner (Chemical Technology), Reg Piper (Dairy Research), Gordon Spratt (Mechanical Engineering), W. Madden (Mineral Chemistry), J. Panozzo (Protein Chemistry), J. Dunn (Textile Industry), and Oskar Luhn (Tribophysics).

Award

Mr R.M. Smith of the Division of Human Nutrition has been awarded the degree of Doctor of Science by the University of Adelaide for his thesis entitled 'The biochemical basis of some nutritional problems in ruminants.'

MEDALLIST

For the third time, the David Syme Research Medal has been awarded to a member of the staff of the Division of Atmospheric Physics in Melbourne.

This time the recipient is Dr G.W. Paltridge for research which, in the opinion of the panel of examiners, represents the most important contribution to one of the branches of science involving biology, chemistry, geology or physics during the two years preceding the award.

Other Division winners have been Dr C.H.B. Priestley, and Dr A.J. Dyer and Mr B.B. Hicks (joint winners).

Letters

As a member of the CSIRO Technical Association, I was horrified to receive recently a CSIROTA Circular endorsing a candidate for the position of Staff Representative on the Executive. It seems the Council of CSIROTA made this decision at their meeting on 28 and 30 November.

I am staggered by the conduct of the Council in making the endorsement. I consider the action taken to be presumptuous, arrogant and highly unethical, particularly when it is recalled the decision was taken when nominations had barely opened and were not due to close for another month.

True, CSIROTA members might like some guidance in their choice of candidate. Granted, if CSIROTA was fielding its own candidate there could be grounds for early endorsement of him. But to endorse someone from outside their ranks when nominations had just opened, let alone closed, is a most irresponsible act for a supposedly competent and responsible staff association executive.

The Council of CSIROTA stands severely reprimanded.

C. Hamilton
Tropical Research Centre,
Rockhampton.

The Editor received Mr Hamilton's letter before the decision to defer the election of a staff representative to the Executive was announced. However, Mr Hamilton maintains that his criticism is still valid and asked that the letter still be published. The letter was referred to the CSIROTA whose answer is printed below. —Ed.

Dr Price has made it clear that he sees the position of staff representative on the Executive as a quasi full-time position and accordingly the individual who is ultimately elected to perform the function effectively would have to have considerable experience in the operations of CSIRO at all levels—especially staff relations.

Council of CSIROTA considered that the endorsed candidate in question, Dr C. Coogan, was the best person for that position because he has had a long history of support for the Technical Association; most other associations nominated their candidates at approximately the same time. If this position is to become a permanent one it is essential that the first appointee is the most suitable available. This should not be interpreted as CSIROTA subscribing to the CSIROOA view that only a member of the professional staff can do the job.

The Technical Association will be looking to the next election with one of its own members in mind.

W. Osborne,
General Secretary
CSIROTA

SAFETY NOTES

Power, plus or minus

The latest statistics for deaths from electrocution in Australia show that 23 persons died as a result of faulty extension cords and 11 due to faulty electric drills.

When were your leads and portable electrical appliances last tested for possible faults? Has your laboratory purchased an appliances tester so that checks can be made regularly?

A Code of Practice on Electrical Safety has been produced by CSIRO, and copies have been sent to all libraries and Safety Officers. If you are involved in using, making, modifying or installing electrical equipment, get a copy—it may save your life.

Cancer risk

(a) A warning has been issued on the possible carcinogenicity of trichloroethylene. Not definitely proven, but an 'alert'.

(b) Highly toxic bis-chloromethyl ether (bis-CME) can be formed spontaneously whenever formaldehyde and hydrochloric acid come into contact. Measurable amounts of bis-CME are detectable at concentrations of reactants above their respective Threshold Limit Values.

Bis-CME has induced tumour-formation in rats exposed to an inhaled air concentration of 0.1ppm., making it potentially one of the most powerful carcinogens known.

(c) Microscope Immersion Oils—some brands contain polychlorinated biphenyls in amounts up to 45 per cent, but this is not indicated on the label. Polychlorinated biphenyls are well known carcinogens and skin contact with these oils should be avoided. Wherever possible, use a substitute, e.g. cedar oil for routine light microscopy.

J.W. Hallam
Safety Officer

Lecture

Dr Alan Walsh, the Division of Chemical Physics, has been invited by the Analytical Section of The Swedish Chemical Society to give the 1976 Torbern Bergman Lecture.

The lecture is to be delivered next June during a conference for Swedish analytical chemists at Lund.

In honour of one of Sweden's greatest scientists, the lecture is given every second or third year by a prominent scientist in the field of analytical chemistry.

Dr Walsh is a foreign member of the Royal Swedish Academy of Scientists.

Astronomer

The world's first radioastronomer, Dr Grote Reber, an honorary Research Fellow with the Division of Radiophysics who works from Tasmania, is visiting the United States to give the Janksy Lecture.

The lecture is named after Karl Janksy who first detected radio waves from the Milky Way Galaxy in 1931. While he is in the States, his native country, Dr Reber will be working with the Bell Telephone Laboratories to give them all the information he can about his early work for archival purposes.

A number of members of staff have requested information on the system of the payment of salaries and the reasons for delays in the payment of some increments.

To get the answers to their questions 'Coresearch' sought some help from the Automatic Data Processing Group. Its Manager, Hank Thijssens, has since provided 'Coresearch' with this article.

CSIPAY meets its deadlines —but sometimes only just

Meeting two representatives from Epping at a social occasion the other night made me realise that a long outstanding request to provide some background information about our Salary System was not merely an idea to fill some unused space in 'Coresearch'. These blokes really had something on their minds, and they proceeded to give me an education about what it is all about 'out there'. Unfortunately, it is not so easy to reciprocate and explain what it is all about in the RAOs, but let me give it a try.

The basic problem from the RAO point of view has been the tremendous increase in work flow associated with the calculation of salaries over the past years, increases which either were disruptive to the normal flow of events and caused peak volumes (e.g. National Wage Adjustments) or a more or less steady build-up of work volume or complexity.

Examples

Cause	Effect
1. Four weeks annual leave.	a) Increase in number of leave applications of 30 per cent. Note: The average number of leave applications per person per annum = 7. 40 per cent of the leave applications affect salary. b) Less man weeks per annum to process salary work.
2. Leave loadings.	Extra work in recording and calculating.
3. Increase in number of employees 5-16 per cent per region per annum.	Increase of 10-20 per cent in work flow.
4. Increase in number of Fixed or Periodic Allowances.	Increased recording and calculating. We now have over 50 different types of allowances.
5. The number and extent of National Wage Adjustments or retrospective adjustments to individual groups.	Large increase in work to calculate retrospective adjustments, particularly if an individual had many salary adjustments over that period.
6. Large increases in the number of salary deductions and the number of variations in those deductions (e.g. four changes in MBF contributions in 12 months).	Increased work flow to record for each employee his new contribution and to amend his salary records.
7. Change over to Medibank.	Change each person's record.
8. Salary adjustments could affect Super/Prov. contributions.	The Super/Prov. scheme is complex to say the least and changes involve a lot of work, particularly to persons over 40 years of age.

Taking all these changes into account, the RAOs had a tremendous increase in work, which has not been offset by any increase in staff, but has been coped with by working more efficiently, harder and longer, with terrific peaks of very hard work when Wage Adjustments had to be implemented—in other words, a terrific increase in output volume (productivity).

Some of the problems that are or were apparent to our employees, e.g. late adjustment of salary scales, were simply caused by getting the next extraordinary influx of changes before the RAO staff had been able to clear the previous lot, and as we all know, sudden increases in volume make any system crack at its joints, and some services, taken for granted over the years, fall behind.

Of course, we use our computer, but in the past its use was more or less restricted to that of a fast typewriter.

RAO staff did all the preliminary work, they had to feed in all the details, gross salaries, etc., and all the computer programs were capable of was to calculate tax, produce payslips, some reports, and record the expenditure.

Since July 1974 we have implemented a new system called CSIPAY. This new system goes a little way towards relieving clerical workflow, but not far enough. However, it is capable of further extension.

The following are still missing:

1. Comprehensive histories of all staff and their various levels of pay, HDA allowances, overtime, etc, and dates of changes, which are necessary if we want to calculate automatic retrospective adjustments. This work is still manual, but efforts are under way to improve upon this.
2. Automatic variation of Super/Prov. contributions on change of salary. This feature could have been built in, but the actual operation is quite difficult, so it was decided to wait till the new Act came in.

This particular item is one of the greatest headaches in RAOs, as it means manual calculation of the new contributions, and with suitable recording and reporting this takes about 10 minutes per contributor, or, in say Melbourne, for a National Wage Adjustment, this would give the RAO about 300 hours of extra work to complete within a fortnight. Prorata this over the number of staff in that section, and you have some idea of their extra workload.

3. Detail Reporting: At present the payslips do not show a great deal of detail, particularly in the allowances area. However, design of a new payslip is under way, and once it has been introduced, we will be able to progressively show more detail. In the meantime, more detailed messages will be shown on individual payslips to indicate the reason for pay variation and the relevant period of say, a variable industry allowance.

We are slowly getting over the hump, and over the next few months we hope to:

a) simplify the salary procedures by making better use of the computer
b) increase the information on the payslips.

However, it must be realised that RAOs are staffed for normal work flows for normal times and the past 18 months have been anything but normal. That they have been able to get all pays out on time (even though sometimes it was close) is a tribute to the hard work and dedication of those few people in the Salaries and Staff Sections who have had to bear the brunt of the economic upheaval of this period.

Obituary
Frank Lugton

CSIRO has lost one of its longest serving and most experienced photographers with the death of Frank Lugton of the Division of Chemical Physics.

Frank was 57 and died after a short illness.

He joined the Organization in 1948, working first in the photographic section of the Division of Industrial Chemistry at Fishermen's Bend, and later transferring to the Division of Chemical Physics in 1967.

Frank Lugton will be remembered especially for his perfectionist approach to photography, where he combined considerable technical expertise with a keen artistic sense, whether the job at hand was mundane copying or a challenging assignment of getting laser beams to show up in a photograph of an interferometer.

Frank left school during the depression of the thirties and he was forced to begin his working life as a messenger boy at the Melbourne Stock Exchange.

Later his interest in photography led him to join W.R. Garrett, a Melbourne firm of commercial and industrial photographers. During the war he spent several years in the Army's Photographic Section.

This practical grounding in photographic techniques served him well over the course of his long career with CSIRO. Among the research scientists he built up a high reputation for coming up with solutions to those testing photographic problems which are encountered in research work.

Perhaps his greatest contribution was in the development of techniques for taking cine films of chemical reactions at solid surfaces as seen in the electron microscope.

A cine film Frank took of a reaction between a palladium grid and magnesium oxide particles played a key role in the discovery of reaction bonding, a new way of joining metals to ceramics.

Frank's skills, energy and enthusiasm will be missed not only by his many friends in CSIRO, but also by members of the Institute of Photographic Technology.

He was Vice-President of the society and much of his spare time over the last 30 years was devoted to promoting its interests.

SDI in London

The CSIRO SDI system, which is already operating successfully at KORSTIC in Korea, is soon to be implemented at the University of London Computer Centre. The ULCC services a network which includes a large number of universities and CSIRO SDI will be used to provide an SDI service in Physics, Electrotechnology and Computing, utilising the INSPEC data base.

'Coresearch'

'Coresearch' is produced by the Central Communication Unit for CSIRO staff. It is also circulated to some people outside the Organization who have a professional interest in CSIRO activities.

Members are invited to contribute or send suggestions for articles. The deadline for material is normally the first day of the month preceding publication.

Material and queries should be sent to the Editor (Dorothy Braxton), Box 225, Dickson, A.C.T. 2602. Tel. 48 4477.

Badminton players wanted at Highett

A group of staff members at the Division of Building Research at Highett have been playing badminton since 1973. They are looking for additional members to their club who are interested in playing singles, doubles and mixed at either the social or competitive level. There's a special call out for more women to join the club which has its 'home' court at the Albert Park Stadium just south of Melbourne.

People from other CSIRO Divisions interested in having a game are asked to get in touch with Bob Crowle, Sarah McQuarrie or Pat Walsh at DBR (telephone 950333).

Science at work

'E' Block, Division of Macrobiotic Confectionery, after the abortive Prune Tasting of 1975.

Coresearch

A monthly publication for CSIRO staff

March 1976 202

More staff and budget cuts for CSIRO

In line with the Government policy of reducing expenditure during the remainder of this financial year, CSIRO has had its budget and staff ceiling cut. The effects will be felt on a pro rata basis right across the Organization—in Divisions, RAOs and in Head Office. The only exceptions will be the four priority areas of minerals and energy, and the Divisions of Human Nutrition, Forest Research and Fisheries and Oceanography.

In making the announcement about the expenditure the Minister for Science, Senator J.J. Webster, said that while the cuts would create some operating difficulties, he did not believe they would unduly hinder essential scientific research.

'Those industries and others who rely on CSIRO should not fear that this necessary pruning of spending will disadvantage them.

'The Chairman of CSIRO, Dr J.R. Price, Members of the Executive and I have taken the current inquiries into the level of CSIRO's wool research and allied programs into account in effecting these savings,' Senator Webster added.

Discussing the effects of the announcement, Dr Price said that in November the Labour Government had set the Treasury-funded staff ceiling at 6013.

'Now the number is cut back to 5975. I want to emphasise however that no one will be retrenched as a result of this latest move.'

The budget pruning exercise will mean that the Organization's overseas posts in London and Washington will be affected. The Australian staff in London will be cut severely—one Australian appointee will be brought home and the locally employed staff of 12 will be cut by four.

In Washington one of the two Australian staff will return to Australia and local staff of six will be reduced to two.

'Our offices in Tokyo and Moscow will not be affected,' Dr Price said. 'They are staffed by only one person in each country, but the reduction in London and Washington means that we'll only be able to give our own staff and that of Government departments a limited service.'

One of the more disappointing effects of the cuts, Dr Price said, was the reduction of capital works expenditure. Work to the value of $3.2 million had been approved for 1975-76 but any of this which had not been started by the beginning of February has had to be shelved although it would be reviewed for 1976-77.

'Only minor items were under way by that date so that we have lost $3.1 million from our works program for this financial year,' Dr Price said.

The rest of CSIRO's budget has been reduced by $847,000 and this will be saved by cutting the general operating expenditure across the Organization by $400,000, by deferring other capital expenditure on small works and the purchase of equipment.

Referring to the operating costs, Dr Price said that the normal allocation was about $27.5 million of which $15 million had been spent in the first seven months of the year, leaving $12.5 million for the remainder of the period.

'This represents a cut of 3.2 per cent for the balance of that time but since more than half of that $12.5 million is firmly committed for housekeeping items such as cleaning and electricity and similar requirements, we really have to save about six per cent during the remainder of the financial year.

'A considerable proportion of this will have to come from travel and overtime budgets.'

She's a winner

The Division of Forest Research in Canberra has good reason to be proud of its receptionist, 23-year-old Jan Shawyer (above). Last month Jan took part in the National Paraplegic and Quadraplegic Games in Brisbane and returned home with two gold medals and one silver one.

The gold medals were won for discus and club distance throwing and the silver for her efforts in club precision throwing.

Jan claims no one was more surprised at her success than she was.

'I'm a member of the Canberra Paraplegic and Disabled Persons' Association and a fortnight before the Games the members said they were going to send me there. I was told I was going whether I took part or was just a spectator but it was hoped I'd agree to be a participant,' she said.

Jan thought she had nothing to lose by being in the team and with only two weeks in which to train started her practice.

'I began throwing the discus but I ran into difficulties with club throwing. We have very little money for equipment and I couldn't get hold of a club. The next best thing was to get a plastic rolling pin, fill it with water and train with that. I'd never seen a real club until I arrived in Brisbane.'

In her customary modest way, Jan wanted it made clear her throws were not world record breakers. For all that, she was happy with her efforts and is hoping now to take part in the next Games in Perth in 1978.

Jan has been a quadraplegic since she fell from some school physical education equipment a month before her 17th birthday. she said. 'The whole ward was there and we had champagne and all.'

Jan had always loved athletics and sports but her accident put paid to any ambitions she might have had—at least till this year.

Jan joined the Forest and Timber Bureau in 1973, last year becoming a member of CSIRO's staff when the Bureau became part of the Division of Forest Research.

Men's year-1976 style

Photo: Peter Lee

Men's Lib gets a look in at last as the gentlemen serve afternoon tea at a meeting of steno-secretaries and typists at the Division of Building Research. Seated around the table are (from left) Margo Moser, Jan Habel, Margaret Gall, Sarah McQuarrie, Phil Stevenson, Joan McDonald, Helen Barry, Maureen Wishart, Marjorie Mallinson, and Helen Dent. Standing are (from left) John Nicholas (Assistant Chief), Ken Robertson (Administrative Officer), Rita Purcell, Jack Pattison (Divisional Secretary) and Joyce Lloyd.

Inventors wanted

Can any designer/inventor come up with a sound idea for making a beach umbrella collapse automatically if it shifts from its fixed position?

In a letter received by Mr Clyde Garrow, Manager of CILES Information Service, the Consumer Affairs Council expressed concern about the safety of beach umbrellas and asked CSIRO's help in solving the problem.

Several years ago Clyde produced a simple device which helped push the umbrella spike into the sand, giving a firmer anchorage. However, he found that in a high wind it is difficult to anchor it.

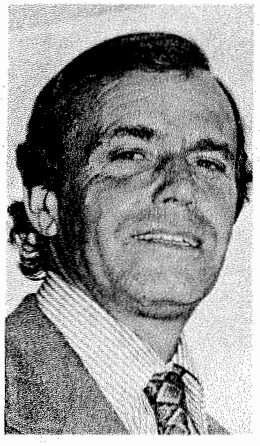
Anyone who can help with the problem should contact:

Mr Clyde Garrow
CILES Information Service
314 Albert Street,
East Melbourne, Vic.

Minister gets first hand impressions of CSIRO

Senator J.J. Webster, a leading figure in the Victorian branch of the National Country Party for many years and a member of the Senate in Canberra since 1964, has become the new Minister for Science in the Fraser Government.

Senator Webster took up his portfolio on 18 December and in the two months that followed he set himself a busy program in trying to see at least a reasonable sample of CSIRO's activities.



Senator J.J. Webster

In that time he has managed to visit the Divisions of Land Resources Management and Mineralogy at Perth and LRM in Alice Springs, and inspected a mobile field laboratory operated by Process Technology at Mt Isa. He has toured the Highett campus in Melbourne, called on Fisheries and Oceanography at Cronulla and has spent some time at the Minerals Research Laboratories and Food Research at the North Ryde site and Entomology in Canberra. He also has hopes of visiting the astronomical observatories in NSW within a few weeks...all of this in addition to the time he has spent at Head Office in Canberra, and quite apart from all the other aspects of his portfolio.

It's been a hectic initiation into the activities of CSIRO for him, but not one that has upset his normally relaxed personality.

He is now making his own appraisal of what he has seen and learned. 'The average politician would scarcely know what science embraces,' he said commenting on his first impressions after being given the Science portfolio. 'It's been important for me to see as much of the work as I could to be able to assess forward estimates and capital expenditure.'

Background

Senator Webster takes over his new role with a background that embraces commercial, agricultural and political interests.

Before he entered Parliament he was a director of a public company in Melbourne involved in the wholesale distribution of steel and plumbing supplies and he was manager of a company involved in timber, hardware and joinery manufacturing.

He also has an agricultural background. He and his wife and four sons live on a property 'Murrungowar' at Yuroke, about 30 kilometres from Melbourne, and he's a member of a family that controls a number of properties supplying wholemilk to Melbourne. They are also engaged in beef and wool production.

He has been familiar with the political scene for a long time. He initially became 'aware' of politics when he was a youngster and his father was campaigning for State elections.

The Senator's first active role came with his decision to join the junior branch of his party and later he moved into the senior arena to eventually become its State president. He entered the Senate following a vacancy in 1964 and until this election was the only Victorian Country Party Senator in the Federal Parliament.

He has served on a number of Senate and Joint Parliamentary Committees and became Chairman of Committees and Deputy President of the Senate as well as Deputy Leader of his party in the Senate in 1974. He has also acted as President of the Senate. Senator Webster was elected as Leader of the Senate following the December elections.

Advice

If one impression comes through in an interview with the Minister it is that he is going to find out 'how it is all put together'—and to him that means asking searching questions from those he meets—before he starts making pronouncements.

He has already had a number of discussions with the Chairman and members of the Executive and Secretariat, he has talked to Divisional staff and he still wants advice from ASTEC or whatever body is set up in its place. (The Government is currently having the Council's role assessed.)

He has also indicated a willingness to talk to representatives of CSIRO staff associations.

Not long after taking over the portfolio, the Minister attended a meeting with the members of the major associations at which a number of topics were discussed, including that of the election of a staff representative to the Executive.

Since the matter is still one for a Government decision, it was not expected that he could commit himself either to the associations or in an interview. He did say, however, that he had received many letters from staff members on the subject, mainly about how the election should be organised.

'There is a tendency these days for employees of companies and organisations to be projected into management,' he commented. 'The ability of such people to contribute depends very much on their experience and their usefulness from the management's point of view.

'As far as CSIRO is concerned, it's my opinion that we're looking for the greatest expertise available in Australia to head this important Organization.'

Minister meets staff reps

Some of the more pressing problems facing CSIRO staff were on the agenda for discussion when members of CSIRO's major staff associations talked with the Minister for Science, Senator J.J. Webster, at Head Office last month.

The meeting was the first of its kind the association representatives had had with the Minister and followed a similar conference with the former Minister, Mr Clyde Cameron.

Representatives from the CSIRO Officers' Association, Technical Association, ACOA and Fourth Division Officers' Association were present.

A number of matters were raised with the Minister including the need for more overseas travel by staff, particularly from the scientific area, the difficulties the Organization is experiencing with staff ceilings and the cut back in funds, both from Treasury and from industry.

These restrictions, the Minister was told, made it difficult for the Organization to continue with its long-held maxim of 'getting the best person available for the job,' the Vice President of the CSIROOA, Dr Graham Brown later reported.

'The Minister was questioned about the introduction of the superannuation scheme and gave the associations an assurance that it would be introduced by July and possibly earlier,' Dr Brown commented. 'The matter of the election of a representative on the Executive was raised and the Minister said it was now a subject on which the Government would consider its overall policy.

'The amount of support science might expect from the new government and its policy towards ASTEC is to be the subject of a later discussion between the Minister and staff associations, Dr Brown said.' No date was set for this meeting.

REAPPOINTED

The Minister for Science, Senator J.J. Webster, has announced the reappointment of Mr W.J. Vines as a part-time member of the Executive for a further term of six months from 14 March.

Former Adelaide Chief retires

Dr A.T. Dick

Dr A.T. Dick has retired from the Division of Human Nutrition after more than 40 years service with CSIRO.

Before the Division was established last year, Dr Dick was Chief of the former Division of Nutritional Biochemistry and took over as Interim Chief of the new Division until his successor arrived to take up his duties.

Dr Dick was the first to demonstrate interactions between trace elements in animal nutrition and led a joint investigation into the problem of toxaemic jaundice in sheep.

In his years as Chief, Dr Dick was able to pursue to a limited extent his interest in the pyrrolizidines, toxic alkaloids which cause liver damage, and in the interaction between molybdenum, sulphate and copper in sheep.

His main purpose, however, was to direct the Division's activities towards elucidating the mechanisms involved in biological processes.

Soviet entomologists visit ACT

Australian entomologists hope to be allowed to work in the USSR before long if the proposed plans for exchange visits come to fruition later this year. Similarly, Soviet entomologists will work in Australia.

Details of the arrangements were finalised during discussions held in Australia last month which culminated in scientists from the two countries signing proposals made under the USSR-Australia Science Agreement.

The USSR visit was a return one which followed a similar tour Australian entomologists made last year to Moscow, Kiev and Leningrad.

In Sydney the Russian mission visited Sydney University, the Australian Museum and the NSW Department of Agriculture. In Brisbane they were the guests of the Queensland Department of Primary Industries, CSIRO's Division of Entomology and the University of Queensland, and in Melbourne they visited the Victorian Department of Agriculture and La Trobe University.

The first of the protocol meetings was held in Sydney and the final one was in Canberra where at the Division of Entomology headquarters the agreement was signed.

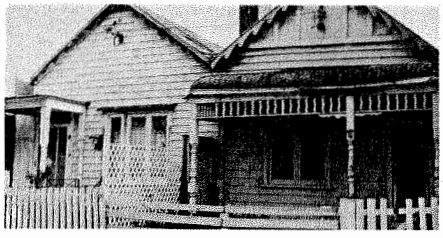
The leader of the Australian mission to the USSR, Dr D.F. Waterhouse, Chief of CSIRO's Division of Entomology, signed for Australia while Professor M.S. Ghilarov signed for the USSR. The ceremony took place in the presence of the Soviet Ambassador to Australia, Mr A.V. Basov, and Dr John Warren, representing the Commonwealth Department of Foreign Affairs.

It now only remains for the two Governments concerned to ratify the agreement.

According to Dr Waterhouse, the first Australians to work in the USSR will probably be concerned with insect pests of stored grain and with the mass rearing of Trichogramma parasites. The latter attack moth pests of field and orchard crops. The Soviet entomologists are also most likely to work on insect pest problems associated with stored grain.

When they visited Entomology, the Soviet scientists (above) expressed their interest in a print in Dr Waterhouse's office, an example of Gyotaku, the ancient Japanese art of fish printing. The Chief is one of the few foreign members of the exclusive Tokyo Gyotaku-no-kai (Friends of the Fish Print) and has had several prints published in Japan in a volume containing works of the modern masters of the art. From left the group is D.F. Waterhouse, I.A. Timoteev, A. Churayeu, J. Fadeev, O.A. Scarlato and M.S. Ghilarov, (Soviet leader).

Picture: Chris Lourandos.



What made you choose your present house? What does it mean to you? Can you tell what people are like by the houses they choose?

These are just some of the questions being asked by Dr Cecily Gribbin of CSIRO's Division of Building Research in a survey that will take two to three years to complete.

Is your house you?

As one of the first social scientists appointed by CSIRO, Cecily intends to depart from the kind of market research which simply winkles out what people want in the way of cupboards and rooms.

It's the people themselves who concern Cecily—what a house means to them at different stages of life, why they move into a particular type of accommodation, and what they expect that accommodation to give them in terms of happiness and security.

One small survey has already been completed, although the answers are not yet fully analysed.

Interviewees were shown photographs of various types of houses and asked what kind of person they thought would live in each type.

'Most people were loathe to admit that they judged a person by the house they lived in, especially so far as status was concerned', said Cecily.

However it soon became clear that a terraced house suggested occupants with a different personality, occupation and social life from those living in a flat or a triple-fronted house.

In the main survey, 500 people will be interviewed from more than a dozen Melbourne suburbs.

The interviewees are divided equally into the 'movers' and the 'non-movers'—those about to move house for one reason or another, and a control group which stays put.

Cecily and her team of interviewers use Housing Commission lists, classified newspaper advertisements and flat agencies to contact the movers.

The interviews take place in two stages, lasting from two to three hours in all. They cover the housing history of the people, including the reasons for selecting their present accommodation and why they are moving or staying.

An essential part of the interview then turns to the emotional state of the movers and non-movers.

Are they in the middle of a family crisis? Are they apprehensive about moving? Are they bored or depressed at the time of the interview?

The movers are asked if they are sorry to leave their present house and what advantages lie in their new house.

Will they miss their present neighbours, and how much contact do they want with other people?

Once the people have moved, a follow-up interview discovers whether they are happy with their new environment and how they have gone about adapting to the new situation in which they have found themselves.

So far about 70 of the proposed 500 interviews have been conducted.

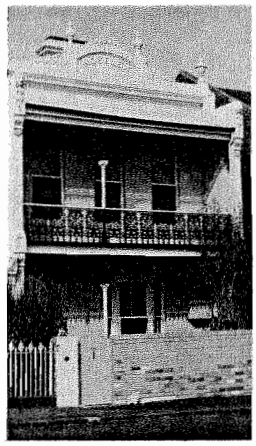
People talked to ranged from those who moved into a caravan once their children had left home, to those buying a larger house and sharing with other people in a commune.

Some of the people living in Housing Commission accommodation—such as those with a network of friends and relatives living in similar accommodation—really enjoy living there and would hate to leave, Cecily has found. On the other hand, others in the same accommodation regard it as a sign of failure.

This may be the first survey of its kind in Australia. Cecily hopes that the results will help Government authorities understand some of the hopes and fears facing people when they relocate from coastal cities to new regional growth areas, as well as those moving from one type of accommodation to another.

Maybe the survey will tell us something about ourselves too.

Cecily Gribbin



Staff awarded Australian honours

Two CSIRO scientists and a former member of the Executive were among those who received the award of Officer of the Order of Australia on Australia Day. They are Dr Menzie (Pip) Lipson, Dr R. Milton Moore and Professor Eric Underwood.

Dr Pip Lipson received his award for service to science, particularly wool textile research.

Dr Lipson, who retired as Chief of the Division of Textile Industry in February, has given Australia a worldwide reputation in wool textile research. His research career has embraced almost all areas of wool textile technology.

His most notable contributions have been in the fields of scouring, spinning, dyeing, finishing, shrink-proofing and moth-proofing, achievements which have made their mark around the world.

Moth-proofing for instance, enabled wool to compete with synthetics, branding fluids which could be removed during scouring prevented the staining caused previously by tar.

Under his leadership the Division of Textile Industry became one of the world's leading wool textile research institutes resulting in savings of millions of dollars to the wool growing and processing industries.

Among the Division's outstanding successes during Dr Lipson's leadership were the developments of the Self Twist spinning machine and its successor, the Selfil machine.

These machines have revolutionised the spinning industry.

Dr Lipson is keenly interested in community and civic affairs and is a trustee and life governor of the Sirovilla Elderly Peoples' Home Society.

Grassland ecology

Dr Milton Moore received his award for service to science, particularly ecology.

He joined the Division of Plant Industry in 1938 as an assistant research officer, rising to become Assistant Chief. Today he leads the Woodland Ecology Unit of the Division of Land Use Research.

Dr Moore is a world authority on grassland ecology and it is largely due to him that the study of plant ecology was introduced into CSIRO.

He studied the impact of introduced plants, sheep and cattle on native grasslands and pioneered the use of ecological methods for controlling weeds in crops and grazing lands. He helped introduce the highly productive pasture grass phalaris to the Southern Tablelands of New South Wales and was responsible for setting up the Ginninderra Experiment Station.

Dr Moore was among the first to be concerned with the ecological consequences of man's agricultural activities. Recently he has been studying man's impact on woodlands and forests and is engaged in restoring vegetation and stabilising soil on areas adversely affected by man's activities.

Apart from his scientific interests Dr Moore has also been much involved in sport and community service.

Wasting Disease

Professor Eric Underwood has had a long association with CSIRO, first as a member of the Advisory Council and as Chairman of the Western Australian State Committee, then as a part-time member of the Executive.

He received his award for service in the fields of agriculture and education.

Professor Underwood's work on Denmark Wasting Disease, demonstrating that cobalt is an essential nutritional requirement in ruminants, won him acclaim as a trace element physiologist.

For many years he led investigations on other animal husbandry problems such as infertility of sheep on subterranean pastures, botulism and pregnancy toxaemia in sheep, and fat lamb production.

As Hackett Professor of Agriculture at the University of Western Australia, Professor Underwood was responsible for the development and growth of the teaching areas in the Faculty of Agriculture and of the research and postgraduate group at the Institute of Agriculture.

Professor Underwood has represented Australia on many occasions at international agricultural and nutritional conferences, served as an advisor to several governments and contributed to community organisations.

Since his retirement from the University his commitments have not diminished and he has participated to the full in many capacities.

E. Underwood

M. Lipson

M. Moore

Polish visitor

A distinguished Polish scientist, Professor Jan Czubek, has been a visitor at the Melbourne laboratory of the Division of Mineral Physics for the past four months. Professor Czubek is Professor of Applied Physics and Chief of the Department of Nuclear Applications of the Institute of Nuclear Physics in Krakow.

While he has been with the Division, Professor Czubek has collaborated in research projects concerned with the detection and estimation of elements in various types of boreholes by nuclear geophysical methods.

Several members of the Division have visited Professor Czubek's Institute in Krakow.

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RAO in Brisbane gets new home

The Brisbane Regional Administrative Office and Queensland State Committee Office are to move to new premises within the next few weeks.

After 10 years in rented premises, the Organization will now have a home of its own in Queensland, a first for an RAO.

This will mean an end to rental payments which, according to the Regional Administrative Officer, Dave Thomas, tends to inflate the cost of providing an administrative service for laboratories and field stations in Queensland, the Kimberley Research Station in Western Australia, the Katherine Research Station in the Northern Territory and establishments in Indonesia and Papua New Guinea.

The new building is located in Wickham Street opposite Anzac House and the United Services Club. It has the big advantage of having adequate car parking facilities, a feature which was sorely missed by those who have had to make the long trek from the present location in the Hibernian Building to the Government car park five city blocks distant.

The new site also has shady lawns for those who want to lunch outside not to mention a mass of meteorological instruments which may interest them.

The latter are maintained by the Bureau of Meteorology which was forced to leave the equipment behind when it moved two years ago to other premises.

The RAO and State Office will occupy the usable space of the three floors of the building with room for the 20 staff of the RAO, five from Internal Audit, two from the Commonwealth Audit, staff from the Building Section and CILES, with room for the State Committee meetings and visitors.

There will also be room for a computer node, an information centre for sale of publications and a fireproof room for registry.

The basement has been tentatively earmarked 'for activities other than pen pushing and red tape weaving.'

Rehabilitation of the premises is now well under way. Staff when first confronted with their new home saw it in a fairly grubby state and were not over-impressed with previous occupants—stray cockroaches which had found a haven in the gathering dust and grime.

However, the breeze coming through the window and the natural lighting were seen as decided advantages by those who had never greatly appreciated their location in window-less conditions in the Hibernian Building.

The official date of the RAO's move will be advised through the usual information circular.

Merbein workshop

The Division of Horticulture recently staged a workshop at its Merbein Laboratory where participants studied the regulation of photosynthesis in horticultural plants. Delegates came from other CSIRO Divisions, universities and State Departments of Agriculture. During the workshop, Dr Peter Scholefield (Horticulture) (above) demonstrated techniques used for field measurement of leaf resistance with a diffusion porometer.

Matthew Flinders Lecture

Dr C.H.B. Priestley, Chairman of CSIRO's Environmental Physics Research Laboratories is to give the Matthew Flinders Lecture for 1976. The honour of being chosen by the Australian Academy of Science, to give the lecture is in recognition of Dr Priestley's distinguished contributions to meteorology.

He will receive a bronze medal and a sum of money as part of the award.

The Lecture will be published by the Academy and delivered by Dr Priestley at the Annual General Meeting. A bronze medal and a sum of money accompany the award.

Measurement science

The International Measurement Confederation (IMEKO) is organising an informal colloquium of experts on 'The Nature and Scope of Measurement Science' at the University of New England, Armidale, NSW, from 5-9 November 1976. A course in measurement science may also be run from 10-13 November, subject to interest.

The objectives of the colloquium are to provide an opportunity for exchanging ideas and experience in measurement science education among people working in this field throughout the South East Asian and Pacific regions, and to consider ways of improving measurement science education.

Anyone interested in participating in the colloquium or in obtaining a copy of the proceedings should contact:

The Organising Secretary,
IMEKO TC1 Regional Colloquium,
c/- Department of Continuing Education,
The University of New England,
Armidale, NSW 2351.

SIROFORUM

Forest Research

Dr Morley (Coresearch January 1976) asks why the new Division of Forest Research 'requires so many people so suddenly', adding to the threat of redeployment of other CSIRO staff.

We would like it to be known that current recruitment will not return the Division even to the level of staffing of that part of the Forestry and Timber Bureau which became the Division of Forest Research on 1 July, 1975. Of the 245 positions transferred 41 were vacant. This situation arose because replacement of staff who left the Bureau was suspended for a considerable period before the transfer, and because most of the clerical staff elected to stay in the Public Service. The most senior clerical officer left was a Clerk Class 2/3, and there were only four professional officers above the equivalent of Experimental Officer Class 3.

Thus on 1 July, 1975 many positions essential to the running of the Division were vacant. More vacancies have occurred since then. Recruitment to these positions was delayed by the Prime Minister's directives limiting staff numbers to the actual number at 30 June 1975 and it is the release of *some* of the vacant positions which has produced the present list of advertised vacancies.

The Division of Forest Research cannot function effectively without revised research programs and additional key staff. It is indeed a special case needing urgent attention.

Ken Eldridge
CSIROOA Representative

Division of Forest Research

Flextime

No doubt much will be fairly and unfairly blamed on financial restrictions in the Organization during the next few months. But the most ludicrous decision I have yet heard ascribed to the requirements of austerity, in one Division is the deferral of the possibility of a Committee to Perhaps Consider the Feasibility of the Discussion of the Pros and Cons of Flextime.

We 'signers-on' of LUR have had flextime for six months now without a single injury among ourselves or the Divisional administration and I understand 20 other Divisions are also happy with the scheme. Could it be that certain ruling cliques in old and large Divisions believe their valued judgments are superior to the careful analyses of staff associations, Department of Labour experts and the Executive of CSIRO which have shown flextime not to be harmful to the health or morals of CSIRO staff?

K. Rattigan,
Division of Land Use Research
Canberra

Safety notes

Design for disaster

Small alcohol burners are frequently used by microbiologists, and in many cases are improvised from a jar with a metal lid where a cotton wool wick is passed through a rough hole punched in the lid.

A case was recently reported when the wick was not very well fitting. When lit, the flame passed through the lid and ignited the mixture of air and alcohol vapour in the jar. This then exploded with sufficient violence to break the jar and spread burning alcohol in the immediate area. Fortunately no one was hurt.

If you must use improvised equipment, look ahead and make sure it is safe.

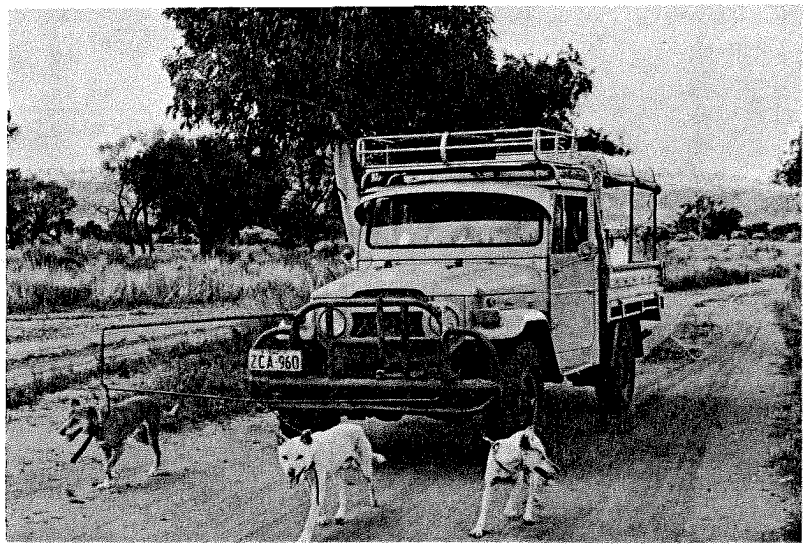
Chemicals and rubber gloves

Although rubber gloves provide adequate protection against most aqueous solutions, such is not the case with many organic solvents. For example, benzene and chloroform readily pass through rubber and can be held in close contact with the skin. A case was recently reported where an organic solvent penetrated rubber gloves and caused blistering of the hands which was sufficiently extensive to require skin grafts.

Ensure that protective items are suitable for the job, as unsuitable items can be more dangerous than none at all.

J. Hallam
Safety Officer

SCIENCE AT WORK



Staff—and animals—at the Division of Wildlife Research in Canberra are looking for ways to help reduce operating costs during the current financial squeeze.

For your information

Information circulars		
76/6	Authorised holidays 1976	28.1.76
76/7	Executive arrangements	5.2.76
76/8	CSIRO directory and staff list	17.2.76
Policy circulars		
76/4	Apprentices—adjustment of rates of pay	2.2.76
76/5	Salary adjustments—housekeepers and housemaids	5.2.76
76/6	Commonwealth Superannuation Scheme contributions freeze	9.2.76

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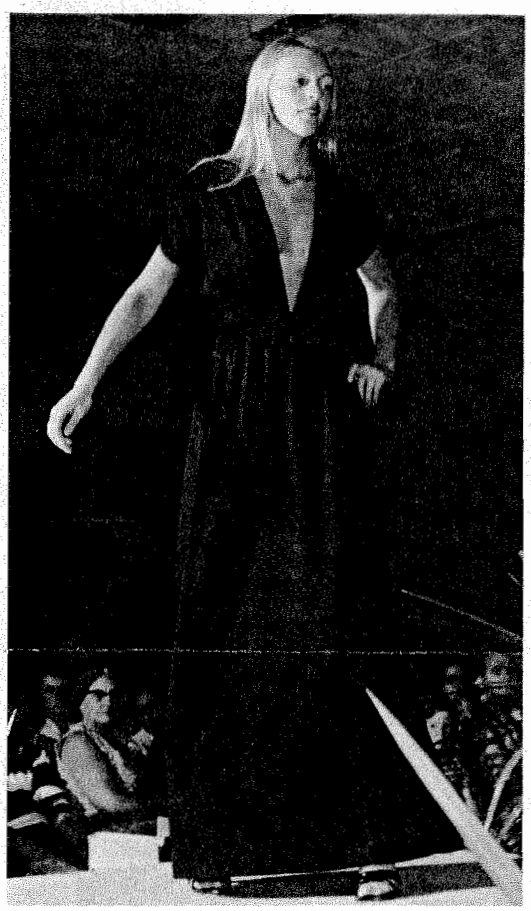


Top: Students from the Gordon Institute created and modelled a wide range of garments made from Selfil wool. Some were elegant or trendy; others were just plain fun.

JUBILEE BEGINS IN FASHION

You couldn't say it was a case of 'standing room only.' There wasn't 'standing room' left. On each of the three occasions the Division of Textile Industry staged their fashion show at their open day on 19 March, the crowds swarmed into the auditorium and within minutes of the doors being opened every part of the hall was crammed with people.

Finally, to prevent the audience being completely crushed, doors had to be shut and the disappointed people asked to come back another time.

Those who could get a view of the show were given a preview of a fashion fabric that is not yet available to the public, but it is one the people of Geelong have heard a lot about—double and single knit jersey made from a minimum of 80 per cent wool and a maximum of 20 per cent nylon, the product of the Division's new spinning process, Selfil.

Not only did the fabrics turn out to be more exciting than anyone outside the Division expected, but the garments made from them were imaginatively created and elegant, trendy or just plain fun, depending on the occasion for which they were designed.

The Division enjoys a close liaison with the Gordon Institute, and it was in their Fashion Department that the garments were made. Some of the students and their lecturer, Mrs Gillian Jordan also modelled the clothes.

The result was a collection of wool garments which might well give a nudge to contestants in the Gown of the Year contest should the students decide to enter their work.

The single jersey Selfil fabric bears a resemblance to the look of the cotton used in body shirts, but there the resemblance ends for the new material has all the properties of finely woven wool with the added lightness and strength of nylon.

It drapes superbly, is crease-resistant, and warm. It can be dyed to trendy earthy colours, to vibrant greens and reds, the delicate pastel shades of blue and pink, or the elegance of black and white.

For added interest, there was a small collection of haute couture wool garments flown in across the Tasman from the New Zealand Wool Board. These were modelled by professional mannequins and added to the wool story.

The parades, however, were only part of the open day. In every part of the laboratory there were displays demonstrating the different processes, techniques and research programs being undertaken by the Division.

The function marked the first in a long list of events being staged throughout the Organization all over Australia to mark CSIRO's golden jubilee. It attracted about 6500 people from Geelong and surrounding district, including representatives of the farming community and students from a number of schools.

In addition to Textile Industry's display, a number of other Divisions sent exhibition material to give visitors an indication of other aspects of the Organization's activities.

The open day was also the occasion for the premiere of the Head Office audio visual presentation 'CSIRO: the first 50 years.' A small static display was used to back it up.

The audio visual presentation, prepared by Sonargraphic Pty Ltd in association with the Central Communication Unit, will be used at open days and special functions by Divisions and Laboratories throughout the year.

While much of the credit for the success of Textile Industry's open day undoubtedly went to the organising committee, headed by the new Chief, Dr Don Taylor, and masterminded by their liaison officer, Mr Stan Boston, every person on the staff was involved.

The Division's gardens, always attractively laid out, were specially spruced up for the occasion, and tea ladies were on hand to serve refreshments throughout the 12 hours to staff and to the public. Office staff were rotated on an hourly basis to cope with answering questions, manning the lift for the elderly, looking after lost children and attending to any minor first aid requirements.

Scientists, laboratory craftsmen, technicians,...they were all part of the public relations team for the day and most of them said the effort was worth it when they saw the response from the public.

The next event on the jubilee calendar was the open week at Perth, scheduled to begin on March 31, and as this issue of 'Coresearch' went to press, its organisation was well in hand.

Above: Dr Don Taylor (left), Chief of CSIRO's Division of Textile Industry, discusses the operation of a jet-scouring machine with the member for South Barwon Mr V. Aurel Smith during the open day at the Division.

What's coming up...

Open days

31 March-5 April, WA Laboratories, at Perth
3-5 April, Tropical Agronomy, at Kimberley Research Station, WA
7-10 April, Tropical Agronomy, at Cunningham Laboratory, Brisbane
22 April, Tropical Agronomy, at Narayen Research Station, Qld.
30 April, Tropical Agronomy, at Lansdown Pasture Research Station, Qld.
1 May, Tropical Agronomy, at Samford Pasture Research Station, Qld.
6-8 May, Soils, at Adelaide
29-31 June, Applied Geomechanics, at Adelaide
9-10 July, Land Resources Management, at Alice Springs Show
12-16 August, Minerals Research Laboratories, at North Ryde, Sydney
September (tentative), Animal Health, in Melbourne
6-9 October, Applied Geomechanics, in Melbourne
Mid-October, Horticulture, at Merbein

Special functions

10 May, CSIRO-DSIR ANZAAS Symposium, at Hobart
11 May, David Rivett Jubilee Lecture
15-16 June, Head Office, Canberra

Looking at our forests

The Division of Forest Research, Canberra, was recently host to a party of 36 senior secondary school students drawn from most of the ACT high schools.

The visit coincided with World Forestry Day last month, which at the suggestion of FAO is now celebrated in about 60 countries.

The objective of World Forestry Day, the successor to Arbor Day is to draw community attention to the environmental and economic significance of trees and forests.

Australian public interest in this area has increased greatly during the last decade.

The students spent about two hours at the Division, and saw a range of displays including studies on the resistance of poplars to rust, eucalypt seeds, forest nutrition and forest fires.

The students had lunch in a nearby forest and visited the Department of Forestry at the Australian National University in the afternoon.

Right: Mr A.G. Brown, Officer-in-Charge, Silviculture Section of the Division of Forest Research addressing school students on World Forestry Day. Trees in foreground were given to the students as a reminder of World Forestry Day.

Academy

The newly formed Australian Academy of Technological Sciences recently marked its establishment at a function in Melbourne. The Governor of South Australia, Sir Mark Oliphant, himself a distinguished scientist, delivered the inaugural address.

Sixty-four eminent Australian scientists and industrialists have been named as Foundation Fellows and the list includes a number of CSIRO staff.

Officer bearers are: President, Sir Ian McLennan; Vice-President, Dr K.T.H. Farrer; Secretary, Dr H.K. Worner; Treasurer, Sir John Holland.

Fellows of the Academy will be entitled to use the letters FTS after their names.

The main objective of the Academy is 'to promote in Australia the application of scientific knowledge to practical purposes and to provide in Australia a forum for discussion and advice to government and the community in relation to the application of scientific knowledge generally.'

It is also envisaged that the Academy will initiate studies into social and economic implications of technological development, encourage research and education in related fields and liaise with other bodies and institutions both in Australia and overseas.

Bogor post

The Secretary (Research), Mr A. F. Gurnett-Smith, has accepted an appointment as Officer-in-Charge of the Centre for Animal Research and Development, Bogor, initially for a period of two years from June.

An advertisement will be issued shortly inviting applications for his position at Head Office.

As Mr Gurnett-Smith will be essentially engaged on Bogor activities until he takes up his new position, Mr S. Lattimore will act as Secretary (Research) until an appointment is made.

Chief elected to Royal Society

The Chief of the Division of Plant Industry, Dr Lloyd Evans (right), has been elected a Fellow of the Royal Society. He joins a select band of distinguished scientists who have been awarded this high scientific honour.

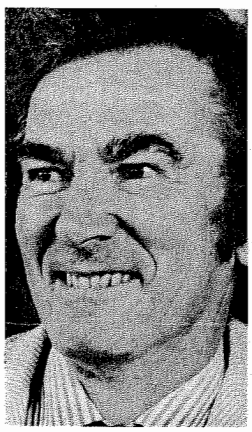
Dr Evans holds the degrees of B.Sc.(NZ), M.Agr.Sci.(NZ), D.Phil. (Oxon) and D.Sc.(Canterbury). Early in his career he was awarded University of New Zealand Senior Scholarships in Agriculture and Botany and was a Rhodes Scholar at Brasenose College, Oxford in 1950-54.

Other honours which have been awarded to him include his appointment as Commonwealth Fund Fellow at the Californian Institute of Technology; National Academy of Sciences Pioneer Fellow in Plant Physiology at USDA, Beltsville; Overseas Fellow of Churchill College, Cambridge; Elected Fellow of the Australian Academy of Science; President of the Australian Society of Plant Physiologists; and Bledisloe Medallist, Lincoln College, New Zealand.

Dr Evans is the author of four books and about 100 published papers and reviews.

Some of these are concerned with the design and use of phytotrons in agricultural research. Many deal with the physiology of flowering in a range of plants, especially those controlled by day-length.

More recently the emphasis of his work has been on the physiological processes which limit yield in crop plants, particularly in wheat.



Dr Evans

'The Hermitage'- a link with the past

'The Hermitage', the stately old building 'on campus' at the Division of Textile Physics, has been recently listed by the National Trust in their Register. Though the listing does not have any legal force, it is a recognition of the architectural and historical importance of the building and an encouragement to preserve it as a valuable contribution to our national heritage.

The Hermitage is a link with the pioneer past of the Ryde area and it reflects the lifestyle of the early settlers. Since 1952 Textile Physics has occupied the house and about a hectare of the estate that originally belonged to the Blaxland family.

In 1838, John Blaxland, who was known as the Hermit, acquired 20 hectares of land from Thomas and Eliza Foster for £268.5.0. John and Eliza were the children of Gregory Blaxland, an influential and wealthy pioneer farmer and explorer. On this beautiful site overlooking a once serene valley and the Parramatta River, John Blaxland built his family home, The Hermitage.

The foundation, cellar and part of the walls of the west wing were built of local sandstone, the rest of mudbricks which were made at a nearby clayhole. Slate was used for the roof and red cedar for woodwork throughout the building. His house is believed to have been completed by 1841.

The Hermitage has weathered well. Its appearance has not been changed significantly by its many owners.

At one stage its owner was Professor James Arthur Pollock, a prominent physicist and a Fellow of the Royal Society of London. He may be best remembered by his book 'Practical Physics', co-authored by O.U. Vonwiller and published in the year 1922 when Professor Pollock died.

Much of the cedar woodwork has been restored to its original beauty by the Division. The former living room, now the Chief's office, is a good example of careful restoration.

The rest of the building is occupied by offices, laboratories and the lunch room. The library and the conference room are located in parts that have been added to the old west wing.

CSIRO has successfully adapted The Hermitage for its present use and made considerable efforts to retain its colonial style and atmosphere. It was undamaged in the Division fire last year.

CONFERENCE

Methods of analyses are being developed which use the interaction of irradiation such as neutrons, gamma-rays and ion beams with matter.

Such methods include activation analysis and borehole logging which are quite well known but they also include techniques which have more recently come into prominence, such as ion induced X-rays, nuclear reactions and Rutherford backscattering.

Applications of these techniques are to be found in pollution studies, the mineral industry, archaeology, medical science and the semi conductor industry.

A conference will be held at Lucas Heights on 3-6 May to compare analytical methods which require the use of special facilities for irradiation which are not readily available from commercial suppliers for routine analysis.

Further details can be obtained from Dr Greg Clark, Division of Mineral Physics, PO Box 136, North Ryde, 2113.

KOSCIUSKO ALPINE FLORA

CSIRO is to publish a book towards the end of the year which could become a classic of its kind. Called 'Kosciusko Alpine Flora', it has been written and illustrated by four members of the staff of the Division of Plant Industry—Alec Costin, Max Gray, Colin Totterdell, and Dane Wimbush.

For the authors, the book represents the culmination of many years of work but perhaps more importantly they see it as an expression of their own great love for a wilderness area, a precious, fragile pocket of wild country which, they believe, could be lost if care is not taken to preserve it from the siege that has destroyed so many other 'primitive' parts of the world's surface.

Deeply impressed by the beauty and scientific interest of Australia's comparatively small area of alpine flora, they are dedicated to its conservation—'In trying to share the results of our enthusiasm and experience with others, we hope that they, too, will learn to understand and appreciate this unique and wonderful flora and in so doing, will become committed, as we are, to trying to conserve it.'

In the preface to the book the authors have described the Kosciusko alpine region as being an area of about 250 sq km, and it is here that the team has done much of its work.

The authors have not been content, however, just to describe its vegetation and the environment of the different plants. Rather, they have tried to relate the geological and human history of the area to the ecological development of the existing plant communities.

The authors have described the effects of human and animal habitation on the region and the threats these make to it and have discussed the effectiveness of the conservation measures which have subsequently been taken.

But, they say, human pressures still require greater control and they hope their book will contribute to a better understanding of why this should be.

The men dedicated the book to their wives in appreciation of their understanding of why their work has taken them away from their families for so many hours during a long period.

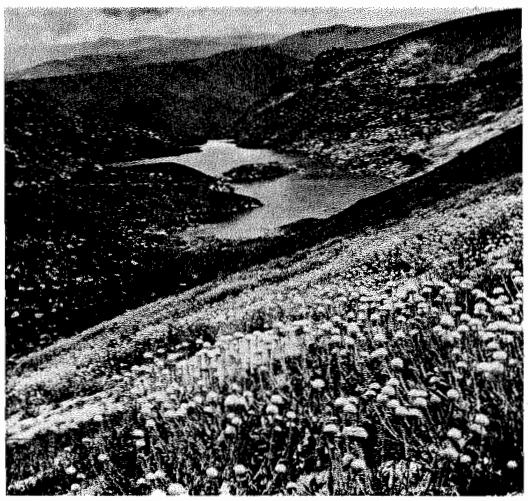
Alec Costin, for instance, has been working in the Snowy Mountains region since 1946, first with the Snowy Mountains Hydro Electric Authority before joining CSIRO in 1953. His earlier book, 'A Study of the Ecosystems of the Monaro Region of NSW' is generally regarded as a classic on mountain ecology.

Similarly Colin Totterdell has devoted a large part of his professional career as a photographer to work in this area.

After joining the Division in 1958 and spending a year in the Plant Physiology Section, Colin joined Ed Slater in Photography.

Above: One of the study areas was this glaciated valley where heath vegetation grows among ice-smoothed rocks.

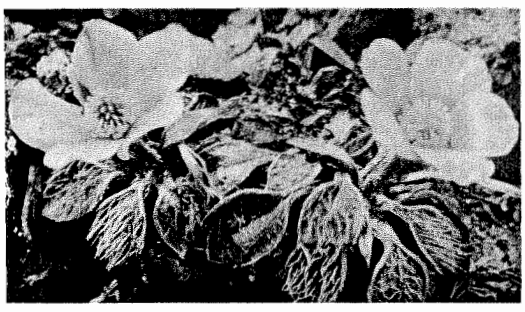
Below: A tall alpine herb field in the area where billy buttons grow on the slopes around Lake Alkina.



Two years later he took over as Divisional photographer when Ed joined Wildlife Research.

'I attribute my interest in and understanding of nature photography and its value in scientific work very largely to Ed's influence and encouragement', Colin said.

Colin's work has appeared in many books, including the Report of the National Estate, and two which were written by his Divisional colleague, Dr Nancy Burbidge, 'Gum Trees of the ACT', and 'Wattles of the ACT.'



Ranunculus mulleri in its extreme dwarf form was discovered on the feldmark on a high windswept ridge. The plant has unusual hairy leaves, part of its survival mechanism.

Max Gray who joined the Division in 1950, has also had a long association with mountain flora and is co-author with Dr Burbidge of 'The Flora of the ACT.'

The fourth member of the team, Dane Wimbush, is stationed at Waste Point at Lake Jindabyne where he works specifically on mountain ecology. His main contribution to the book was the production of the map which shows the vegetation and associated features of the region.

The idea of the book began when Max and Colin visited Kosciusko with Alec and began to absorb some of his boundless enthusiasm and interest in its unique vegetation.

From then on members of the team, either together or separately, gradually built up their contribution to the work, making many trips to the area.

Sometimes these were just for a day; at other times they stayed in mountain huts working over weekends, frequently in their own time.

There were often frustrations too, such as when they left Canberra in clear skies only to find that the mountains were a 'wipe out' from the weather point of view.

Much of the work was done in the spring, summer and autumn months when the men were able to most appreciate the quiet of the mountains, the times when in the first light of the morning there is an eerie stillness in mist-filled valleys, a time when people who love mountains feel that the peaks are theirs alone.

They enjoyed their experiences, often solitary ones, when they were absorbed in their work, when they found plants that perhaps were infinitesimal in their size or just big enough to be visible after yesterday's storm.

They experienced the indefinable pleasure of hearing the sound of freshly fallen snow crunch beneath their boots, took delight in seeing crystal landscapes formed by ice in darkened crevices and became familiar with the smells that are part of their mountain world...the faint scent of damp moss and bush mountain heath, of fresh rain on sun-baked rocks.

They also came to know the mountains in their wild and sullen moods, when there was the danger of being caught in fogs or near-blizzard conditions or when thunder could be heard rolling menacingly in the distance with the constant threat that summer storms were not far away.

And yet there was always the temptation to stay for one moment longer to get just another photograph, to climb to just the next outcrop of rock to see what plants might be beyond it on the lee side.

In searching for plants the men found several new species and also plants not previously known in the Kosciusko area although they were known to exist in other mountainous regions such as in the New Zealand Alps. Much fruitful co-operation with New Zealand botanists has, in fact, grown out of the project.

The plantlife they found and its habitat have been documented in the book in such a way that it will give those who want scientific data the information they seek but at the same time it has been presented in such a way that a layman will find it a very readable account. Similarly the illustrations add to the scientific material but again, the skill and understanding that Colin has brought to the work make the illustrations an outstanding part of the work.

The book should be out about Christmas and will be available within CSIRO and to the public. It is also hoped that some of the illustrations will be available separately.

Research of this nature is never complete but the book will represent the basic framework for long-term monitoring and study of the alpine plant communities and their ecology.

'We believe it is better to produce the book now and perhaps be criticised for its incomplete state, rather than to wait many more years till every single aspect could be documented,' the authors said.

'The difficulty of getting the work to this stage would have been much greater without the encouragement of our colleagues and particularly that of our Chief, Dr Lloyd Evans.'

Most of the world's alpine flora books have set a very high standard so that the team has had to match the best. The Organization is convinced that this publication will be regarded as being in that top bracket.

The study team

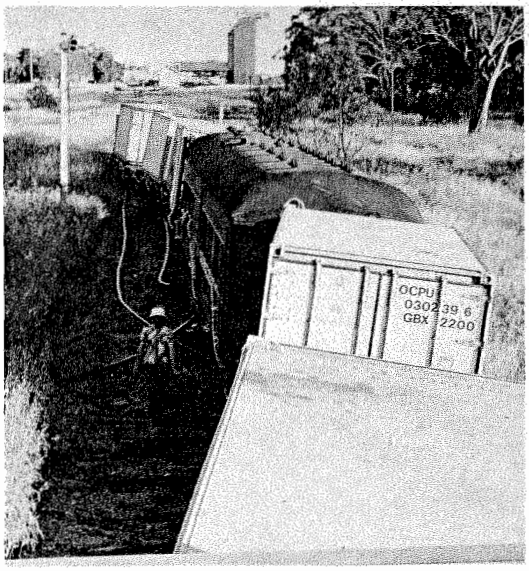
Alec Costin

Colin Totterdell

Max Gray

Dane Wimbush

RESEARCHERS OFF RAILS



It came as little surprise to 'Co-research' to learn from Dr Jonathan Banks of the Division of Entomology in Canberra that CSIRO had recently gone off the rails. However, it turned out that the rails in question were at Ariah Park, near Temora, NSW, and that CSIRO's involvement lay in a number of derailed freight containers carrying research experiments.

The experiments were designed to find out how fast gases are lost from moving containers. This is particularly important in shipping materials under fumigation because the concentration of deadly gases being used to keep insects at bay must be known for safety and efficacy reasons.

The 12 containers, supplied by Hapag Lloyd and the Orient Overseas Containers Line, had been loaded with bagged rice from Ricegrowers Cooperative Mills Ltd at Griffith.

Jonathan, together with Dr Alister Sharp, Arthur Irving and Christine Meyers from the Division of Food Research, used a buffet car from the NSW Public Transport Commission as a home cum laboratory while monitoring gases in the containers.

As the train slowly pulled the containers towards Sydney, the crash came with a minimum of fuss at 4 o'clock in the afternoon.

'We were busy taking measurements, or looking out of the windows, at the time. It was so gentle that it was just like falling into a heap of cushions', said Dr Sharp.

Luckily, of all the specialised equipment and chemicals being carried in the mobile laboratory, only the caraffe of orange cordial in the fridge broke!

It looked at first as though the experiments would have to be abandoned, but railway gangers managed to put the train back on the rails after 36 hours, and it and the tests were able to continue.

Reports are filtering through that one or two Divisions have taken to purchasing bicycles for the use of staff during the current economic crisis. The Division of Building Research now possesses eight official ones and a number of the staff have taken to bringing in their own private steeds.

The activity among the riders recently inspired the Division to stage 'The Great Bike Race'. Eight teams took part, the winners being the Preservation Group who, from left to right, are Graham Keen, John Thornton, Neville Walters and Judy Simkins. Photo: Wal Hastie

Safety notes

Two recent incidents should serve to remind people that accidents can—and do—happen.

Grinding wheels

The first refers to a toolpost grinder, a fairly common piece of equipment in many workshops. The grinder has a high speed motor connected to the wheel spindle via a belt and interchangeable pulleys which can be set to drive a small internal grinding wheel at about 26 000 rpm, or a larger external grinding wheel at about 6 000 rpm.

The output speeds are not indicated on the grinder or in the instructions, but were calculated from the motor speed and pulley sizes.

A misunderstanding of the set up resulted in a 5 300 rpm rated wheel being operated at 26 000 rpm, and ran for several minutes before bursting.

One lens of the operator's safety spectacles was shattered. Make sure that grinding wheel revs are not above the wheel rating.

Fire in laboratory oven

The oven was purchased late in 1971 and had intermittent use until mid-1975.

The thermostat control failed, resulting in the heating element remaining on. The contents of the oven were incinerated and the room ceiling above the oven was severely scorched by the fire which started as soon as the oven door was opened.

All drying ovens where this could happen should be fitted with an 'overheating' cut-out.

And incidentally, what happened to the mercury from the thermometer?

J. Hallam
Safety Officer

For your information

Information circulars		
76/9	Amendments to CSIRO Directory	4.3.76
76/10	Regional Administrative Office, Brisbane—change in location	1.3.76
76/11	CSIRO Postdoctoral Studentships 1976 (applications close 14.4.76)	11.3.76
76/12	Reserve Bank of Australia, Senior Research Fellowships (Agriculture) and Research Fellowships (Agriculture)	15.3.76
76/13	Head Office arrangements	22.3.76
Policy circulars		
76/7	Camping allowance	24.2.76
76/8	Salary and wage adjustments and amendments to Terms and Conditions of Employment—National Wage Case February 1976	24.2.76
76/9	Removal of furniture—disturbance allowance	18.3.76

'I don't want a raise, Mr Harlingen. I just want bouquets and accolades and tokens of esteem and bravos and huzzahs and a piece of the action.'

CSIRO man at the helm in PNG

The Papua Yacht Club is one of the main sporting and social centres for expatriates living in Port Moresby. Its Commodore this year is Dr Philip Spradberry who is Officer-in-Charge of the Division of Entomology's screw-worm fly project in Papua New Guinea.

Seen right at the helm of the yacht 'Bacardi', Philip was one of three expatriates who chartered boats to form a Papua New Guinea team in the recent Southern Cross series.

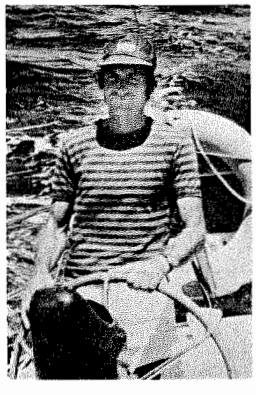
He skippered 'Bacardi' in the Sydney to Hobart race, the boat finishing 51st out of the fleet of 102 yachts which took part in the event. On board with him was Greg Zadow of the Division of Food Research.

Philip heads a small entomology team which is investigating the screw-worm fly, a major pest of cattle in Papua New Guinea, South East Asia and Africa.

Because of Papua New Guinea's proximity to Australia, the fly represents a serious threat to Australia's livestock industry.

A laboratory was established in Port Moresby in 1973 to undertake basic research into the biology and ecology of the fly and to evaluate methods of its control. Surveys are being made throughout the country to determine its incidence, its importance to the cattle industry and the range of natural hosts.

Assisting Philip from the Division is Mr Don Sands. Other members of the team include a number of Papua New Guineans.



Philip Spradberry

Visiting Professor

Professor J. Yanney Ewusie, Vice Chancellor of the University of Cape Coast, Ghana, spent five days in Australia visiting universities in Sydney and Melbourne, after attending a conference of Executive Heads of universities of the British Commonwealth in Wellington, New Zealand.

While he was in the ACT, Professor Ewusie spent some time at the Division of Forest Research where he talked with the Acting Chief, Dr Max Day, and at the Division of Plant Industry where he had discussions with the Chief, Dr Lloyd Evans.

Professor Ewusie, a botanist, is currently studying the problem of formulating and executing national science policies in developing countries.

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20,000 people see 'CSIRO in the West'

'It's good to see that at least one Government organisation is prepared to show us how our taxes are being spent.'

That was a comment which was made over and again by people who visited Floreat Park when the Western Australian Laboratories held their Jubilee Open Week during 31 March to 5 April.

Politicians, housewives, teachers, farmers, students...they were all represented in the 11,000 over the age of 10 who were physically counted and personally greeted by members of the staff as they arrived on the laboratories' lawns.

Almost as many again under the age of 10 also came and certainly had to be taken into account in the logistics of the operation.

For the staff and the organising committee in particular, the week was a major triumph. Not just because so many people were 'exposed' to the activities of CSIRO or even because the displays reached such a high standard, but mainly because of the feeling of goodwill the week engendered.

As the Chief of the Division of Land Resources Management, Mr Ray Perry said: 'It was a remarkable achievement that cemented and strengthened the good relations which already existed among the 10 Divisions we have represented here in Western Australia.'

Towards the end of last year a committee was set up under the WARO, Mr Jack Brophy. All its members not only spent much of their professional time working on its planning, but also gave up a great deal of their spare time as well. In addition, other members of the staff fully co-operated with the venture, including Jack's secretary, Honor Sivyer, on whom many of the administrative arrangements fell, and Joyce Jervis who looked after all the financial aspects.

But no matter how much effort was put into the week's organisation by other people everyone on the site was adamant on one point—and that was the contribution made by Maurie Woodward, LRM's graphic designer.

Between Christmas and the end of the open week, Maurie gave up every weekend to work, and his wife, Nancy, and their children saw very little of him throughout the summer.

Many of the others, including Ray Perry, Justin Murphy, Bill van Aken, Russell Hudson, Malcolm Howes, Pip Baxter and Bob Rummery, also regularly turned up at weekends to wield paintbrushes or do any of the hundred other things required.

Not one penny was paid out in overtime nor was any time taken off on flexileave. As well a number of the staff even slept on the premises when funds ran out and there was no money left in 'kitty' to pay for a security service.

The volunteer guards organised themselves well and the embassy tent was the scene of anything from a bridge party to a prawn night when relays operated between the Swan River where the prawns were caught and the on-site barbecues.

Official opening

The Chairman, Dr J.R. Price, flew over from Canberra to take part in the official ceremony and outlined in an address the activities of CSIRO over the last 50 years and the work of the Organization in WA in particular.

Speaking on the philosophy behind CSIRO's research, Dr Price

Contd. on page 2

The Chairman, Dr Price, with Dr R.G. Chittleborough (Fisheries and Oceanography) and Mr Peter Jones, who represented the Premier, watch juvenile western rock lobsters in an aquarium at the WA open week display.

Maurie Woodward, Land Resources Management's graphic designer, who masterminded the displays at the WA open week, at work.

Selfil garments for U.S.A.

A selection of the Selfil garments modelled at the fashion show held by the Division of Textile Industry at their open day in March will be seen in New York this month.

Platt-Saco and Lowell, the marketing agents for Repco who manufacture the Selfil spinning machines, saw the garments at the fashion show and were so impressed with them that they asked the Division if they could use them in their United States promotion. The garments will be shown to representatives of the textile industry.

Geelong's radio station 3GL has also shown considerable interest in the garments and the Selfil process. One of their staff, June Thomas, who compered the fashion parade at the open day, has interviewed the Division's liaison officer, Mr Stan Boston, on one of her programs.

Staff awarded NSW Royal Society Medals

Two of the four medals presented this year by the Royal Society of New South Wales for outstanding contributions to science were made to members of CSIRO staff.

They were the James Cook Medal which was awarded to Dr Alan Walsh of the Division of Chemical Physics and the Edgeworth David Medal which went to Dr F.J. Ballard of the Division of Human Nutrition.

Scientific acclaim has been snowballing for Dr Walsh in the last year or so following the many years during which he received little encouragement or acclaim for his pioneering work in atomic absorption methods of chemical analysis.

Next month

Material held out of this issue will be used in the June edition of 'Coresearch'.

The citation for this latest award described him as 'an outstanding research scientist with a special gift for originality, with the tenacity necessary to overcome the many practical difficulties that have arisen during the past 21 years of his work, and with the personal qualities of leadership well recognised by his colleagues.

'In all his work,' it said, 'he shows an elegant simplicity, surely a mark of greatness.'

The Edgeworth David Medal was similarly awarded to Dr Ballard for his research which involves the study of the mechanisms and regulation of protein turnover in the tissues of mammals. He has established a method of measuring the factors responsible for regulating each step of protein breakdown at the cellular level. His research has led to the discovery that mammalian cells contain a special mechanism for getting rid of abnormal proteins.

Extremely high rates of protein turnover are a serious consequence of diseases such as diabetes and ischaemic heart disease, while the rates appear low in cancer tissue. Dr Ballard's studies are aimed at eventually regulating these abnormal rates.

During the annual meeting of the Society three members of CSIRO's staff were elected office bearers on the Council. They were Dr D.J. Swaine (Mineralogy) who has become the Society's president, Mr M.J. Puttock (NML) who is a vice-president and Mr J.W. Humphries (NML) who is one of the two honorary secretaries.

Appointment

Miss Ann Fordsham, a recent Honours graduate in Horticultural Science at the University of Sydney, has been appointed Information Officer for the Division of Horticulture Research.

TV program

The film 'A change in climate' which has been co-produced by CSIRO's Film and Video Centre and the ABC in association with the Antarctic Division of the Department of Science will be screened in the ABC's 'Perspective' series in NSW on 9 June, in WA on the 11th, Tasmania 15th, Victoria 18th, SA 22nd and in Queensland on 1 July.

STOP PRESS

Rivett medallist

The CSIROOA has announced that the Rivett Medallist for 1976 has been awarded to Dr B.M. Chapman of the Division of Textile Physics. The award was to be presented at the Rivett Memorial Lecture on 11 May in Hobart.

Jubilee activities continue in la

'Tall tales and true' were told at Perth

If the Perth staff responded to their open week duties with what could only be described as 'devotion above and beyond the call' it would be equally true to say that they thoroughly enjoyed themselves in the process.

When the last visitors had driven off each day, it was the time to rest aching feet and sore backs often either with a sundowner or a barbecue. This was the time when, to use the local vernacular, some wildlife research was undertaken with 'emus' and 'swans' being liberated from their glass cages.

It was the time, too, to recount the day's events and there were many true stories to be told.

There was, for instance, the tale about the 'Latvian detector' that still has two men walking around Perth pondering on the wondrous world of science.

The story began in the tent where Peter Petrusevics was demonstrating, among other things, a thermal detector.

A Latvian by birth, Peter still speaks his native tongue fluently so it was not unnatural that he was able to understand perfectly what two Latvian visitors were talking about when they began discussing the display in their own language.

Peter asked them, in English, if they were Latvians. Surprised that they had been recognised, they agreed but asked how Peter had known. With a twinkle in his eyes, Peter said the instrument they were looking at was a 'Latvian detector.'

When he realised that they had been taken in, Peter spent the next 10 minutes trying to tell them that it was all a great joke but the two men went off none too sure whether CSIRO really had given up its secret work when its constitution was reformed in 1949.

Then there was the tale about the 'gold detector.'

Gold was the subject of curiosity in one of the mineral labs and to illustrate a point Allan Mann passed around some gold leaf to a school class. Fortunately before the class departed, he noticed that some of it was missing.

To ensure its return he suggested that those who had done some rather fast 'mining' would be well advised to return the spoils as they would not get past 'the gold detector' at the front door.

Needless to say, shortly afterwards Allan found the missing pieces had been left on his desk.

Jewellery bath

In another lab, Mike Krencej, assisted at times by Maurie Woodward, found his ultrasonic bath was a winner. Offering to demonstrate how jewellery could be cleaned by immersing it in the bath, the men soon found they had a tremendous demand for the service.

One little old lady slowly pulled one ring off her bejewelled hands and then seeing the shimmer on the diamonds after treatment went on to remove several more rings off each of her other fingers before she delved deep into her handbag and pulled out a handful more.

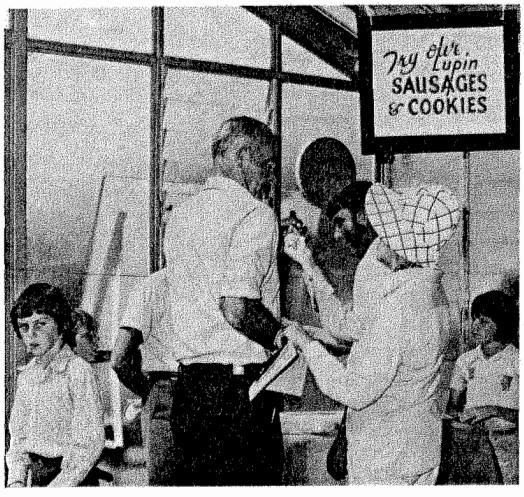
In all the men conservatively estimated they cleaned about $1.5 million dollars of diamonds, not to mention spectacles and other jewellery. 'We'll do anything but your socks and your teeth,' they proclaimed to the crowds that surged around them.

Communication gap

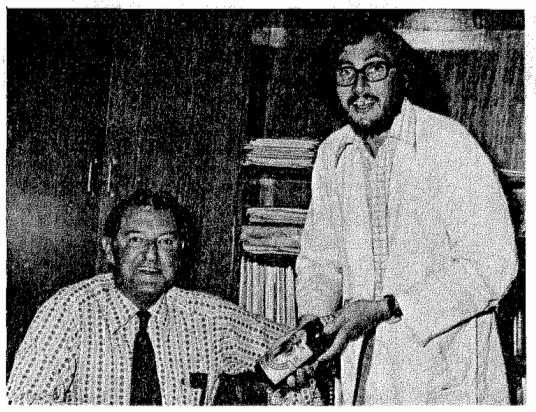
A feature of the displays was the agreement that wording should be kept to the level which the lay public could understand.

This worked well except in the case of the dung beetle exhibit which had been prepared in Canberra. There is a difference in vocabulary between the eastern states and the west and a scientist trying to explain the story behind biological control of insects felt he had no rapport at all with one group.

Not that is, until one likely lad came up with a well known euphemism for dung after which there were no further difficulties in communication.



Anyone for lupin sausages or biscuits? Graham Arnold (centre back) had plenty of tasters.



Mr Ray Perry, Chief of the Division of Land Resources Management, discusses the merit of WA's own 'Blackbuie' liqueur with 'Dr' Justin Murphy.

WA gets its own 'liqueur'

For years the wine and spirit industry of Western Australia has wanted to produce a drink that was a true WA product, something that would be sought after by connoisseurs the world over.

Just in time for CSIRO's golden jubilee—on 1 April to be precise—the Division of Vinology and Alcohol Technology announced its important 'breakthrough,' a new liqueur called Blackbuie.

Made from the heart of the black boy, a local tree that in itself suggests the Western Australian landscape, the liqueur is enticing to the palate, has a note of devilment in its effect and a bouquet that is faintly reminiscent of swampy marshes at midnight.

The research which went into producing the liqueur—part of CSIRO's involvement with industry in WA—was described by 'Dr' Justin Murphy in a special program produced for 'This Day Tonight' for ABC television in Perth on 1 April.

The liqueur, the process of which 'Dr' Murphy described as taking the pith out of blackboys, has its own distinctive label showing a blackboy tree and the CSIRO registered trademark.

When the program finished, the ABC was swamped with telephone calls and had to take the unusual step of making a repeat of it the following night.

At the end of the show, the announcer suggested that those people who wanted to learn more about CSIRO's research should take the opportunity of visiting Floreat Park during its jubilee open week, advice which hundreds of people took if one could judge from their comments when they arrived at the labs.

Since the announcement, 'Dr' Murphy and his enthusiastic Chief, Mr Ray Perry, who at all times gave his support to the research program, have been flooded with requests for samples of the liqueur, but it is understood that this will be made available only to those members of the staff who visit Floreat Park, although if economic cuts are lifted, it may be possible to have a 'tasting' at the Head Office VIP function in June.

Open week

Contd. from page 1

told guests how this was nationally oriented but at the same time took into account the relevance of specific local needs.

Dr Price also paid a tribute to the co-operation CSIRO received from the WA State Government Departments, the WA State Committee and the universities.

The week was officially declared opened by Mr P.V. Jones, State Minister for Housing, Conservation and the Environment, Fisheries and Wildlife, who represented the Premier.

Among the official guests were the Rt Hon. Lord Mayor of Perth Mr E.H. Lee-Stear, a former Chairman of the WA State Committee, and Mr R.F. Claughton, who represented the Leader of the Opposition.

Displays

While most of the displays were organised in the main laboratories some were housed in marquees. Two of these included the main 'CSIRO in the West' exhibit, an introduction to the research activities undertaken in Western Australia, and a Head Office display and audio visual presentation, 'CSIRO: the first 50 years.'

The audio visual gave people a comprehensive look at the history of CSIRO and the wide range of work that has been done for Australia throughout its 50 years. During the week it was shown for 96 sessions, most of which had capacity audiences if not the 'house full' sign up outside.

It would be impossible to say which of the displays were the greatest drawcards—everyone of them had a contribution to make.

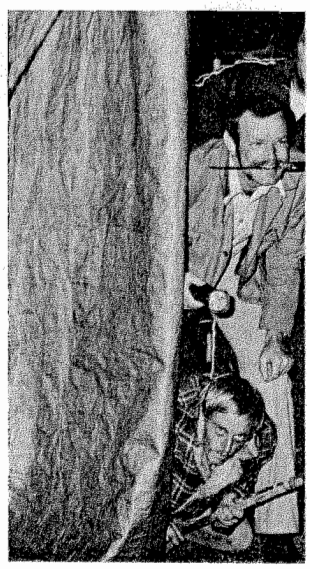
A bank of computers in the systems analyses section of LRM where people could play 'Decide' pastoral games aroused a lot of attention and on the last day when a number of primary schools arrived, the computers stole the limelight with their 'Snoopy' printouts.

Refreshments were not available for people but many took advantage of an offer to sample coffee made from hot water at the solar energy exhibit and to nibble biscuits and sausages made from lupin flour.

The latter was an operation organised by Graham Arnold who talked many of the staff into making up no less than 5000 biscuits. The recipe was a 'royal and ancient' one dug up by Ray Perry and the lupin ingredients were supplied by Graham. A butcher made the sausages.

Visitors openly expressed their interest in many aspects of the work...they were anxious to know what was being done about the problem of Perth's water supply, they showed their concern about the jarrah die-back disease which is threatening their forests; they asked questions about how the Organization is assisting mining industries, about the future of their Western rock lobster resource, about pollution and the influence of mining activities and other industries on the land and in the sea.

Many of them said afterwards they had little idea of the scope of the Organization's work, and many made the comment that they had been given a lot to think about.



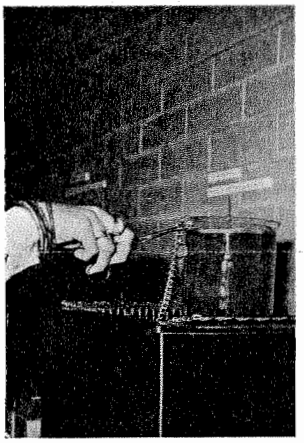
Unpaid but keen and ever-ready security to repulse vandals should they have entere exhibit.

Lyn Wiles cleans the family jewels in the Division of Mineralogy's ultrasonic bath.

All photographs from the Perth open week were taken by Bill van Aken.

laboratories across Australia

guards from the WA staff were on hand
d this Head Office marquee or any other



Above: Russell Hudson was one of those who met and looked after hundreds of he Perth visitors.
Below: Peter Sewell played an important role in organising tour schedules.

Open days start in Queensland

For three days last month people from Brisbane and the surrounding areas had the opportunity of learning about many of the problems facing rural industries in northern Australia and how CSIRO research is helping to overcome them.

In those three days thousands of visitors stepped from their cars and buses into the world of legumes and crop growth, the Belmont Red and balding sheep—one demonstration showed the animals being chemically defleeced.

The open days were staged by the Cunningham Laboratory to celebrate CSIRO's 50th anniversary and involved the staff of the Division of Tropical Crops and Pastures which has its headquarters at the Laboratory and groups from the Divisions of Soils, Computing Research and Mathematics and Statistics which also use the Laboratory as a centre for their activities.

This meant that in addition to the livestock, plants and soils demonstrations, visitors were entertained by such things as a mathematical calculation that had been running for several hours on an electronic calculator and the chance of 'talking' with a computer through a terminal in one of the laboratories.

Preparations

The open days were held in April so that the plants and crops on view would be in the peak of health. Two months of preparations under the watchful eye of Peter Thompson, information officer at Tropical Pastures and Crops, culminated in a full-scale dress rehearsal a few days before the doors were thrown open to the public.

Couriers took groups of staff around the 12 exhibit areas to give speakers the chance of practising their speil—and be corrected when they were off course. The rehearsal proved its value when it was discovered that frailer visitors would almost certainly collapse in a moist heap if more than one exhibit area was placed in the glasshouses!

Point number 13 on the circuit contained the refreshment stands, and the last point, the air-conditioned conference room, featured the ubiquitous Head Office audio visual entertainment 'CSIRO: the first 50 years.'

The planning also had to take into account parking arrangements and this called for what must have been the ultimate sacrifice from the staff—the relinquishing of their parking facilities in favour of a paddock some distance away, a bout of self-denial which was appreciated at least by those who acknowledged the smooth running of the show.

Plastic bags

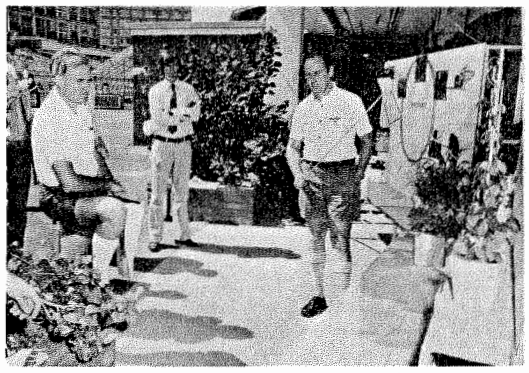
The open days coincided with some of the best weather seen in Queensland this year, and this was probably just as well as many of the exhibits were placed outside.

For the three days politicians, students, schoolchildren and members of the general public meandered through the Laboratory in semi-orderly groups, most clutching CSIRO plastic bags which became progressively filled with give-aways.

A special evening session, held for 300 members of the Australian Institute of Agricultural Science, took place amid coloured lights and much feasting and imbibing.

After the final guest had departed on Saturday evening, staff pondered over the success of the event at a barbecue on the lawns in front of the main entrance to the Laboratory.

They agreed, yes, it had been time consuming and a lot of hard work, but on the whole the consensus that it had been worth it carried the day.



Dr Frank Smith from the Division of Tropical Crops and Pastures explains some of the finer points of the soil fertility cycle to an engrossed group of visitors at the Cunningham Laboratory's open day.

Jubilee plans

30 April, Crops and Pastures at Lansdown
1 May, Crops and Pastures at Samford
6-8 May, Soils at Adelaide
9-10 July, Land Resources Management at Alice Springs Show
22-23 July, Atmospheric Physics, at Aspendale
22-23 July, Textile Physics, at Sydney
28-31 July, Applied Geomechanics at Adelaide
12-16 August, Minerals Research Laboratories at North Ryde, Sydney
22-25 September, Animal Production at Armidale
30 September, Animal Production at Prospect
6-9 October, Applied Geomechanics in Melbourne
Mid-October, Horticulture at Merbein

Special functions

10 May, CSIRO-DSIR ANZAAS Symposium at Hobart
11 May, David Rivett Jubilee Lecture
15 June, issue of CSIRO jubilee stamp
15-16 June, Head Office, Canberra
26-27 July, Entomology Acaricide Symposium at Longpocket Labs, Brisbane
5 November, Human Nutrition Symposium, Adelaide

Honour

Dr J. Czulak of the Dairy Research Laboratory at Highett has been elected to the Fellowship of the Institute of Biology, London.

Information officer leaves

Dr Ayis Ioannides, information officer at the Division of Entomology in Canberra, will leave Australia this month to study music full time.

Ayis, who has been involved with various Canberra musical organisations for some years, will sit the tough Guildhall School of Music examinations in June with the hope that he will be one of the few students who become eligible to take a course in advanced conducting.

Future plans are indefinite but Ayis says he would like to return to Australia if suitable opportunities presented themselves in the musical world.

Pasture research at Narayen

Five aircraft and a number of coaches and cars were used to transport people from many parts of Queensland last month when the Nayaren Field Station held its jubilee open day.

Located 470km north west of Brisbane, the research station is one of several in the State operated by the Division of Tropical Crops and Pastures (formerly Tropical Agronomy).

Farmers, graziers, State department extension workers, research workers, townspeople with an interest in what happens at Narayen and school children from the surrounding area were among those who were guests for the day. They came from as far away as Rockhampton, Brisbane, Maryborough, Bundaberg and Toowoomba.

Displays showing the operations of the Division in general and how they were related to Narayen research in particular were set up in the headquarters building. Guests were able to see these against the background of CSIRO in general when the Head Office audio visual presentation 'CSIRO: the first 50 years' was screened. They were then able to tour the property and inspect the work for themselves.

Displays showing the operations of the Division in general and how they were related to Narayen research were set up in the headquarters building. Guests were able to inspect these before making a tour of the property.

On hand to introduce them to this were the Chief of the Division, Dr Mark Hutton and Mr Norman Shaw who heads the pasture agronomy research which encompasses the speargrass and brigalow areas and the Wallum (a coastal region of Queensland).

Guests were then free to move around the station in cars, staying as long as they liked at any point to talk about a particular aspect of the work with the officers involved in the various programs.

Much of the success of the day was due to the efforts of the Officer-in-Charge of the station, Mr David Coates, and the overseer, Mr Peter Grant, a fact which was acknowledged when the staff from the Division's headquarters in Brisbane, the Narayen staff and their families and some of their neighbours ended the day's official activities with a barbecue.

David Coates at Narayen

Lady Rivett dies

Lady Rivett, widow of one of the founders of CSIRO, Sir David Rivett, has died in Melbourne, aged 90.

A scientist in her own right, she met her husband when they were both studying science at the University of Melbourne.

Lady Rivett was a staunch supporter of Sir David throughout his career, and she maintained her interest and support for CSIRO after his death for as long as her health permitted.

Elected

Graduates and staff at Macquarie university have elected Mr M.V. Tracey, Chief of CSIRO's Division of Food Research, to the University Council.

Mr Tracey was one of two new members elected to the Council, the other being Mr L.C. Holmwood, who is Director of the NSW State Secretariat of the Australia Constitutional Convention Delegation.

The members of the Council were re-elected by a poll of the university's convocation,, comprising graduates, full-time staff, members of the Council and some invited members.

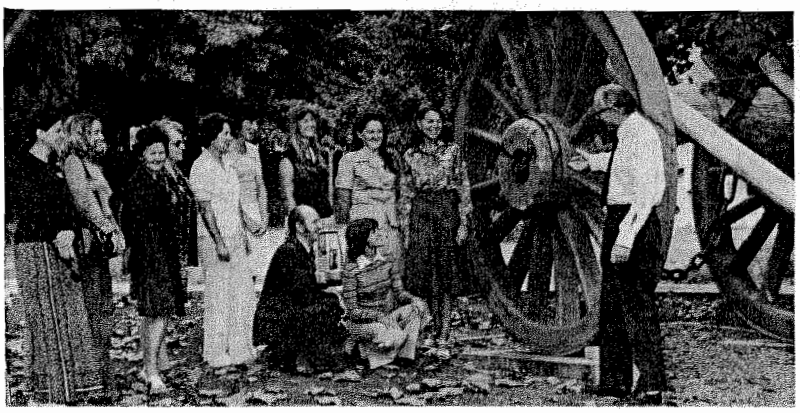


Photo: Alan Edward

Mr Bruce Bond, DAO of Forest Research, shows participants at the Secretarial Seminar some of the historical equipment which is kept on the site at Yarralumla. From left (standing) Marion Fallon (CCU), Jan Baxter (HO), Gerda Zietek (Course manager), Ethel Johnson (HO), Jane McCormack (HO), Jan Anikieff (RAO), Robyn Gibson (HO), Rhonda Scoullar (HO), and Rita Raets (CAGA).
(Kneeling) Don Gwynn (Director of Studies), Margot Colquitt (Protein Chemistry, Melbourne).

CSIRO man wins Dennis poetry prize

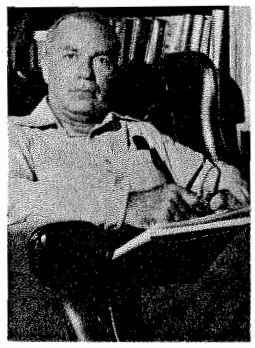
When Frank McMahon, the storekeeper at Head Office, was convalescing some years ago from a serious illness he turned to writing for an interest. He sent his first piece of poetry to 'The Canberra Times' which immediately accepted it for publication. This year Frank won the C.J. Dennis Prize for narrative poetry at the Adelaide Festival of Arts.

The poem entitled 'Chapel Street Burra S.A.' was written last October after he returned to Canberra from a holiday near his boyhood home in South Australia.

While he was there, Frank visited Burra where he was deeply impressed with the strength and austere beauty of a church in Chapel Street. He felt these same qualities were expressed in the singing of the congregation, particularly in the hymn 'Crimond.'

The C.J. Dennis competition was in three parts—for a play, a short lyric poem or longer narrative verse, the section which Frank won. For Frank it was a rather special award for he had been introduced as a boy to C.J. Dennis by his father and an uncle, both of whom were Dennis devotees.

The competition was conducted by the South Australian Writers Fellowship in association with the Adelaide Festival and carried a prize of $100.



Frank McMahon

Frank, who has only been able to work in a temporary capacity since his illness, enjoys his writing and says he has been greatly encouraged by the interest shown in him by 'The Canberra Times' literary editor, Mrs Pat Rappolt, and the assistant editor, Mr John Farquharson. He has had four other poems published in the paper in recent months.

Secretaries attend Seminar in ACT

The fourth of a series of Secretarial Seminars was held at the Division of Forest Research in Canberra. Conducted by the Training Section, the course had 10 participants from Head Office, Caga Centre and one Victorian Division.

A broad range of subjects related to the role of secretaries in CSIRO and their work was discussed. The seminar also included a session attended by 'the person (or persons) for whom they work (new term for "boss").' This session was considered a great success and since it included a number of senior staff from Head Office, added to the experience gained by participants.

A feature of the seminar was the tour of the Division which was of particular interest to the women, especially for those from Head Office and Caga Centre who seldom get the opportunity to visit a Division in that way.

Other courses being planned for the rest of the year by the Training Section include three senior and two middle management courses, a course on counselling and selection interviewing techniques, photographic and taxonomy seminars, two seminars for Divisional Secretaries, a series of superannuation seminars, a staff development program in CILES and three DAO seminars.

CSIROOA has talks with Minister

When the Council for the CSIRO Officers' Association met recently in Canberra they talked with members of the Executive and also had an informal meeting with the Minister for Science, Senator J.J. Webster.

The main topic for discussion with the Minister was the question of how the Government was going about the task of nominating a successor to the Chairman, Dr J.R. Price, as his term of office draws to a close.

The Council wished to know whether the Minister and the Government would find it useful to have any submission from staff associations and if so, just how these should be made and when.

The Minister's response, according to the Council's President, Dr E.W. Radoslovich, was cordial and helpful, as a result of which the CSIROOA will be submitting ideas through the Minister to the committee which will be appointed to advise him on this matter.

The association also discussed briefly the CSIRO staff election, overseas travel and ASTEC, subjects which were again explored more fully when the Minister was able to talk with members of the SA branch of the CSIROOA at a meeting in Adelaide.

Brisbane RAO opens

Staff at the new Brisbane RAO have been dubbed Roast Cats by the State Committee Chairman, Professor Norman F. Lahey.

Addressing the staff at the opening of the office Professor Lahey coined the title from the initials which stand for Regional Office for Administration and State Committee and Translation Service.

Praising the efficiency of the staff Professor Lahey nevertheless 'put the heat on' the Roast Cats to continue to serve the research workers who, with few exceptions were, he said, notably inexpert in matters of administration.

The building was formally dedicated to the use of the Regional Administrative and State Committee Office by Mr Martin Grace, CSIRO's Secretary for Finance and Supplies until his retirement in 1963 and very much a personality in the Organization's history.

Old friends of Mr Grace's were present to swap stories with him during the evening's festivities. These included Mrs Griffiths Davies, Miss Ella Todd and Mr and Mrs Lin Cuvet.

A surprise of the evening was the naming of the Committee Room in honour of Miss Hilda (Billie) Todd who died last year. Miss Todd was the first secretary of the Queensland State Committee and was well known by all who came to Brisbane in CSIRO's early days.

Would you believe?

It is reliably reported that the Division of Fisheries and Oceanography gave up fish for Lent.

Award

The National Measurement Laboratory has drawn our attention to the story in the March issue of 'Coresearch' about staff who had received the Order of Australia. No mention was made in this of Mr A.F.A. Harper, the Executive Member of the Metric Conversion Board.

Alan Harper, who was made an Officer of the Order, was one of the foundation members of the Laboratory and worked for CSIRO until about five years ago when he transferred to the MCB.

Much of the work for which Mr Harper gained his award was done during his work in the Division of Physics in his capacity as secretary of the National Standards Commission. He was also scientific adviser to the Senate Committee which prepared the report that led to metric conversion being undertaken by the Commonwealth Government.

Glider pilot

Mr D.G. Reid of the Division of Atmospheric Physics, has been awarded the Hoinville Trophy for 1975. The award, which is made by the Gliding Federation of Australia, recognises the contribution made by Mr Reid to gliding over many years.

'Coresearch'

'Coresearch' is produced by the Central Communication Unit for CSIRO staff. It is also circulated to some people outside the Organization who have a professional interest in CSIRO activities.

Members are invited to contribute or send suggestions for articles. The deadline for material is normally the first day of the month preceding publication.

Safety Notes

The Safety Group has produced three Codes of Practice on the following subjects:

Electrical Safety
Cryogenic Fluids
Pesticides

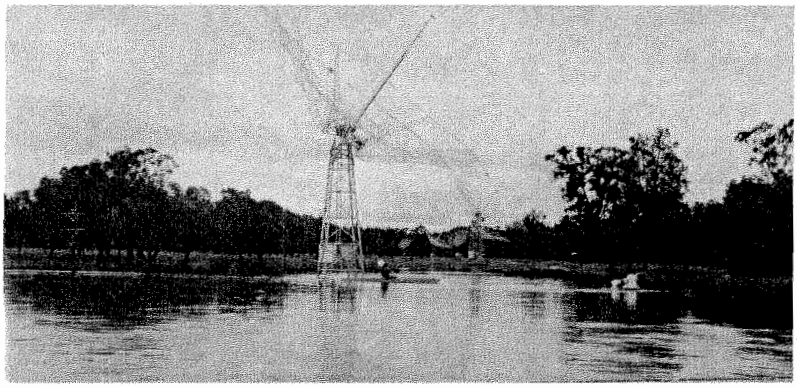
Copies have been distributed to all libraries and through them to safety officers.

Your local safety officer will decide who, in your establishment, should have their own personal copy of a relevant code, and will arrange supply through your library.

Bulk stocks for official distribution within CSIRO are held by the Chief Librarian. These codes are also available for sale to individuals through Editorial and Publications Service at 50c each for the first two and 60c for the Pesticides Code.

Jack Hallam Safety Officer

CULGOORA HIT BY FLOODS



Radiophysics new telescope-at-sea? No, just a section of the radioheliograph at Culgoora when the area was hit recently by floods for the third time in five years. Canoeing in their own backyard at the height of the flood are Karen and Joanne, daughters of Mr W.J. Payten, Officer-in-Charge of the Radio Observatory.

Fortunately the water at Culgoora was shallow and did not invade the Observatory buildings. However the home of one staff member was flooded and several others were isolated by the water.

The town of Narrabri, where many of the staff live, was cut in two when the only bridge open to road traffic disappeared for five days beneath the flood waters of the Namoi River.

The staff made their way to work in the only possible way—aboard the 'tin hare', the small train which offers a bumpy journey between Narrabri and Narrabri West.

Coresearch

A monthly publication for CSIRO staff

June 1976 205

1 JULY-IT'S A 'SUPER' DAY

Key information on staff contributions

If you are contributing for Superannuation or Provident there may be an automatic change to your contribution rate when the new scheme comes into effect on 1 July this year.

If there is to be an automatic change to your contributions it will take place on the first payday after 1 July, which will be Thursday 8 July. The payslip you receive on 8 July will show the new amount that has been taken out.

Whether there is a change to your contribution rate will depend upon what percentage your contributions to the Provident Account or the Superannuation Fund (including reserve unit contributions) are of your gross 'salary for superannuation purposes.'

How do you work out 'salary for superannuation purposes'? This is simply your normal annual salary (before any tax or deductions) plus any allowances you may be earning which are counted for superannuation purposes. A list of the allowances that are counted for superannuation purposes is shown at the end of this article.

How do you work out your percentage contribution? Take the annual figure you have determined as salary for superannuation purposes and divide it by 26. This gives you a fortnightly salary to work on.

Look at a recent payslip and see how much is being deducted fortnightly for superannuation or provident contributions and express it as a percentage of the fortnightly salary you have just calculated.

The best payslip to use will be the payslip for payday 24 June as it will contain the basic information the Superannuation Board will be looking at on the changeover date of 1 July.

Don't use the fortnightly salary shown on your payslip—it will be slightly different. The annual salary shown on the payslip will not necessarily be your correct salary for superannuation purposes as it may include allowances which are not counted for superannuation. If you are not sure of your basic annual salary, your staff clerk will advise you.

Look at the percentage you have just calculated. Is it five per cent or greater? If it is, then there will be no change to your superannuation deductions in your 8 July pay.

On every *birthday* after the new scheme starts your salary for superannuation purposes will be examined (by the RAO Staff/Salaries Section) and, if it has risen (reclassification, annual increments, national wage adjustments etc.) it may be that the deductions you have been paying will be less than five per cent of your new salary.

If this happens they will be automatically increased to five per cent. A review of this nature ensures that you are contributing

Contd. on page 3.

This article has been prepared by Head Office and the RAO in Canberra. While every effort has been made to ensure its accuracy it should be remembered that it has no official standing. The only material which has that standing is that which is produced by the Superannuation Board.

Jubilee stamp issued 15 June

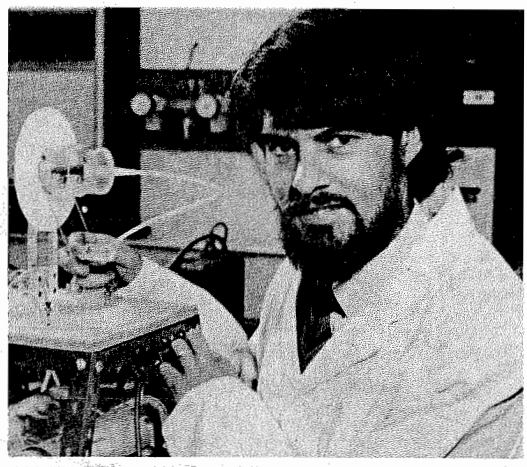
CSIRO's jubilee stamp will be issued on 15 June.

In releasing details of the new stamp, Mr Ted Ditchfield, Australia Post's General Manager, Marketing, said that general sales would last about two weeks at post offices, but it would be available to collectors for a period of up to 12 months from some 76 philatelic sales centres around Australia.

The stamp was designed by Mr Robert Ingpen of Drysdale, Victoria, a former member of the staff and now a design consultant. Mr Ingpen chose three items, a measuring stick, a graph and computer tape, to symbolise activities of CSIRO—the scientific collection, investigation and recording of data.

Mr Ingpen also designed two first day covers for the issue and these will be sold at philatelic sales centres and at 344 selected post offices for 30c each until 21 June, providing stocks last for this period.

He's the Rivett medallist



A simple instrument for predicting the extent to which wool will shed its creases has been developed from research by a CSIRO scientist, Dr. Bernard Chapman (above) of the Division of Textile Physics in Sydney. His work earned him the 1976 David Rivett Medal.

Bernard produced a theory which can predict the behaviour of wool fabrics under everyday wear conditions.

This enabled the development of the instrument, which can be used by the textile industry to take measurements which indicate the kinds of techniques required for better 'wrinkle' performance in fabrics.

Bernard received his medal at the Seventh David Rivett Memorial Lecture in Hobart.

The award was instituted by the CSIRO Officers' Association in 1964 to honour the memory of the late Sir David Rivett, formerly Chief Executive Officer and Chairman of CSIR, predecessor to CSIRO.

The award is offered every two years for outstanding research by members of CSIRO staff under 40 years of age.

Staff training sessions on superannuation

1 July sees the implementation of the new Government superannuation scheme. Because there are still many people within the Organization who are not yet sure of how they personally will be affected by the scheme, Administrative Officer groups and CSIRO's training officers, Don Gwynne and Bob Marshall, have prepared a program which should allow most of the staff across the country to have a much better insight into its ramifications by mid-July.

For the last few weeks Bob has been working in association with the Superannuation Board in Canberra preparing an audio visual on the subject, a presentation which will also be used by the Board in their familiarisation courses.

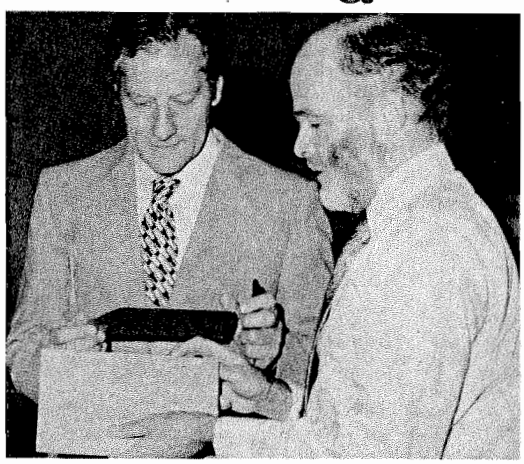
Training sessions for administrative staff have been organised by Committees of Administrative Officers in Melbourne, Canberra and Sydney. These sessions will include a demonstration of the audio visual program and a talk by the Education Officer of the Superannuation Board, Mr Keith Goodwin.

Regional Committees have been set up to plan meetings at each CSIRO site. Administrative staff who have been trained in the special courses will run the audio visual program and advise contributors how they will be affected by the new scheme or how they can best reorganise their commitments if necessary.

Individual counselling on the scheme will be available to any staff members who wish to talk the matter over privately with their DAO, staff clerk or personnel officer.

According to Don, all the meetings should have been held by mid-July.

Chemical Technology visitor



Mr V.E. Jennings (left) a member of the Executive was a recent visitor to the Division of Chemical Technology. Among the projects which he inspected was one concerning experimental building materials, a program he discussed with Mr John Coleman (right).

Symposium participants hear science 'straight talk'

Scientists had to realise that the country did not owe them a living warned a former member of the CSIRO Executive, Sir Rutherford Robertson, now Director of the Research School of Biological Sciences at the ANU. Sir Rutherford issued the warning at a symposium at the ANZAAS conference in Hobart last month.

About 400 scientists attended the symposium, 'CSIRO DSIR—Fifty years of Creative Research' held to celebrate the jubilee of the founding in 1926 of the Council for Scientific and Industrial Research (CSIR) in Australia, and the Department of Scientific and Industrial Research (DSIR) in New Zealand.

Sir Rutherford was one of the three main speakers at the symposium which was chaired by Sir Frederick White, a former Chairman of CSIRO and himself a New Zealander. Other speakers were Dr Edwin Robertson, Director-General of DSIR, Wellington, and Dr Jim Melville, formerly Director of the Waite Agricultural Research Institute, South Australia and a former CSIRO Executive Member.

In his paper 'The Right Atmosphere for Research', Sir Rutherford predicted that great demands would be made in the future on the imaginations of Australian and New Zealand scientists, politicians and administrators.

'Scientists,' he said, 'must realise that the country does not owe them a living just to do the research they like to do unless that research is clearly worthy of support.'

Some scientists, he said, would have to face the proposition that instead of continuing marking time doing research at great expense, they should find something they could do better.

'The scientific community shares a responsibility for the best use of money spent on research', Sir Rutherford said.

'Politicians who vote the money have a responsibility to listen and to understand what scientists say and then to make statesmanlike decisions about support.'

It was tempting to cut research money when economy was necessary, firstly because since it did not affect many people there were few votes at risk, and secondly because there was not an immediate income return from research.

'Sometimes it is apparent later that the support should not have been cut,' Sir Rutherford added.

Origins

In his opening address, Sir Frederick White recalled the origins of CSIRO and DSIR, particularly the visit in 1925 of Sir Frank Heath, Secretary to Britain's DSIR, to Australia and New Zealand.

Sir Frank had been invited firstly by the Australian and then by the New Zealand Government to report on the possible role of each in bringing vital scientific aid to industry in the two countries.

The Australian Science and Industry Research Act (1926), creating the Council for Scientific and Industrial Research, was given Royal Assent on 21 June 1926.

The New Zealand Act, creating DSIR, was given Assent on 31 August of the same year.

'It is indeed gratifying to the leaders and members of these institutions (CSIRO and DSIR) that each has reached the maturity of 50 years of age well known in its own country, admired for its contributions to the prosperity and development of industry and agriculture and internationally respected for the contributions to the advancement of science made by its people,' Sir Frederick said.

'This has not been achieved by accident. It can have resulted only from the evolution and use of management and administrative principles well suited to the undertaking of scientific research for the national benefit.

'In these days of widespread but often ill-informed discussion of science policy issues it is important that these principles be clearly enunciated and that governments and industrial leaders know that they exist and respect their application to national scientific institutions.'

National needs

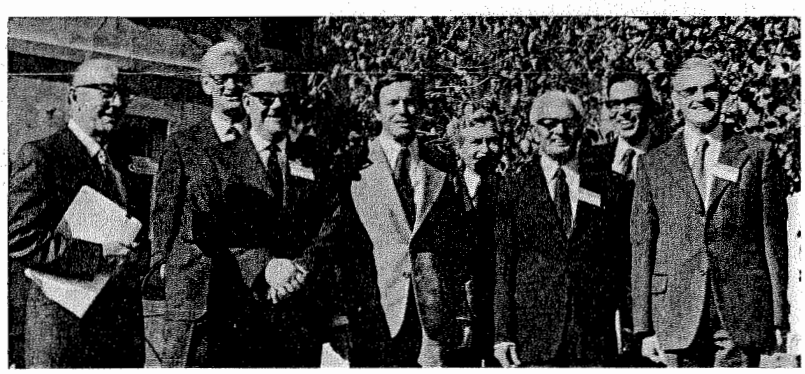
The DSIR Director-General's paper looked at 'Matching Research to National Needs.'

Key points made by Dr Edwin Robertson were that government-financed research should be seen as an investment by the taxpayer from which he expected to receive worthwhile dividends; that enlightened governments were convinced that science paid off and that their standard of living was very largely dependent on their level of expenditure on research and development; that in New Zealand during the last few years an unprecedented number of developments had taken place which had necessitated a comprehensive review of its national science policy; that this had made the present time the most exciting and important period in the history of DSIR.

Dr Jim Melville, in his paper, 'Interactions', drew together the threads of development between the two Organizations. He followed the 50-year history of the two, pinning each with the well-known names—for New Zealand Marsden and Heath, and for Australia that same Englishman along with Rivett and Julius.

'People in all walks of life,' he said, 'have become increasingly aware of the part science and technology have played, and will continue to play, in their everyday lives. In my opinion no other organisations have been so influential in bringing this about.

'And at bottom the reason is good science, more good science and still more of the same.'



'Stowell', CSIRO's Tasmanian laboratory was a focal point for ANZAAS visitors while they were in Hobart. 'Mine host' was Dr Don Martin, (far right) the retiring Officer-in-Charge of the lab. In this group (from left) are Dr Alan Pierce, Executive, Mr Keith Taylor, Entomology, Dr Price, Chairman, the Minister for Science, Senator Webster, Dr Hill Worner, Executive, Mr Victor Burgmann, Executive, and Dr David Ratkowsky, Mathematics and Statistics.

Appointment

Mr A.V. Bradshaw, Chief of the Division of Process Technology, has been appointed Deputy Director of the Minerals Research Laboratories.

New Fellows of AAS

Three CSIRO scientists were among nine Australian scientists who were elected fellows of the Australian Academy of Science last month. They are: Dr J.M. Gani, Chief of the Division of Mathematics and Statistics, Mr H.C. Minnet, OBE, Assistant Chief of the Division of Radiophysics and Dr W.J. Peacock, Senior Principal Research Scientist with the Division of Plant Industry.

Award

John Buchanan of the Printing Unit was awarded first prize for second year apprentices in the monotype keyboard course at the Melbourne College of Printing and Graphic Arts annual awards.

OPEN DAYS AT SOILS WERE 'MORALE BOOSTER'

More than 4000 of South Australia's citizens are now better informed about CSIRO than they were a few weeks ago. They were visitors at open days held in Adelaide on 6-8 May.

These were centred on the Divisions of Soils and Computing Research but most other Adelaide Divisions, 10 interstate Divisions and Head Office provided displays.

Some came to see Jack Harris' lawn—a patchwork of experimental plots designed to test new varieties/species and new mixtures of grasses.

Others came to understand why their houses crack on Adelaide's reactive soils, to watch dung beetles specially flown down from Rockhampton, to see what CSIRO had done in solar energy research or to watch termites chomp their way through wood.

Those who showed them around worked hard but had a lot of fun too.

A feature of the Mineralogy Sections (Soils) display was a PDP-11 computer programmed by Ted Radoslovich to 'talk' to visitors. The computer asked for the visitor's name and phone number, told the name of its previous visitor, went on to ask questions about clay minerals and to give some information about them.

All went well until some smart schoolboy inserted a commonly spoken but often unprinted four-letter word instead of his name. The next visitor, a prim middle-aged lady teacher, was not amused. The program was hastily changed.

Girls visiting the workshop seemed more interested in the apprentice than the machinery. One lad asked what would happen to human beings if they lived in plant growth cabinets. A farmer advised the staff to talk kindly to plants to make them grow better.

Other staff were involved with explaining that termites build their nests out of their-er-excreta, with trying to explain why an iron-deficient rat billed as being listless tended to be a bit frisky at times, with extricating a student from between growth cabinets where he somehow got jammed and with telling a group of liberated schoolgirls where they could find groups of boys.

Dr Arnold Martin, Chief of the Division of Soils, was naturally pleased with the success of the open days and has already started thinking how the Division can celebrate its own jubilee in 1978.

Other people's impressions of the event were summed up by the man who organised the whole thing, the Division's information officer, Kevin Handreck.

'All in all, we were very happy with the results of our efforts,' he told 'Coresearch'.'We talked with people from other Divisions and other sections in our Division.

'We know more about CSIRO than we did — some have even suggested we have a showing of the Jubilee audio visual occasionally at morning tea. Our morale is much higher and we feel proud to belong to CSIRO.'

Jubilee program

9-10 July, Land Resources Management at Alice Springs Show
16-17 July, Tropical Crops and Pastures at Katherine Show
22-23 July, Atmospheric Physics, at Aspendale
22-23 July, Textile Physics, at Sydney
29-31 July, Applied Geomechanics at Adelaide
12-16 August, Minerals Research Laboratories at North Ryde, Sydney
23-25 September, Animal Production at Armidale
22-23 September, Animal Health at Melbourne
27-28 October, Animal Production at Prospect
Mid-October, Horticulture at Merbein

Special functions

15 June, Issue of CSIRO jubilee stamp; philatelic displays.
15-16 June, Advisory Council meeting, Head Office, Canberra
26-27 July, Entomology Acaricide Symposium at Longpocket Labs, Brisbane
5 November, Human Nutrition Symposium, Adelaide

LRM farewells colleague

The Division of Land Resources Management in Perth delayed its official farewell to one of its staff, Mr Maurice Mulcahy, until its jubilee open week so that the Chairman, Dr Price, could attend the function.

Maurice had left the Division a month earlier to join the WA Environmental Protection Authority. Close colleagues had already entertained him at another dinner party and the WA Social Club had held its traditional 'sundowner' at which LRM had made its presentation.

However because Maurice was held in such high esteem by his colleagues both in LRM and in the other WA Divisions they wanted to have an official function and this was staged as a dinner at University House.

Maurice joined CSIRO 22 years ago and worked for the Division of Soils in both Adelaide and Perth.

Later he became Officer-in-Charge of the WA Laboratories and at the time of his resignation he was Officer-in-Charge, Rural Sciences Laboratories.

During the evening Dr Price expressed his own and the Executive's appreciation of the work Maurice had done for the Organization and the Chief of the Land Resources Management, Mr Ray Perry thanked him for all the cooperation he had received from him when he took over his new position.

'His departure', said Mr Perry, leaves a gap in the Division and in CSIRO but if we take the wider view, his experience will be of more value to the community in his new job than in CSIRO.'

Advice for superannuation contributors

Contd. from page 1.

the compulsory five per cent to the Superannuation Scheme.

If you are already paying a high percentage of salary in contributions, it may be several years before an automatic adjustment needs to be made. Until it is made you will continue paying exactly the same amount as you are paying now unless you make one of the elections dealt with later in this article.

What if the percentage of your contributions is less than five per cent on the last payday in June 1976? What will happen to your pay on 8 July?

This depends upon how old you are. If you are 40 years of age or over on 30 June, then your contributions will be automatically increased to five per cent of your salary for superannuation purposes.

If you are under 40 years of age on the 1 July then what happens will depend upon how much less than five per cent your contributions are.

If your contributions are four per cent or more then they will automatically be set to five per cent.

If your contributions are at least three per cent but less than four per cent then they will be automatically set to four per cent. At your next birthday on or after 1 July they will be again automatically adjusted to five per cent. (If your birthday follows quite soon after 1 July you will have two adjustments in very rapid succession!)

If your contributions are less than three per cent then they will automatically be raised to three per cent. At your next birthday on or after 1 July your contributions will be raised by another one per cent to four per cent and at the next birthday again it will rise to five per cent.

The purpose of these automatic adjustments is to ensure that everyone is paying at least their compulsory percentage of salary towards the scheme.

However you are not limited to only making the compulsory contributions (after all you get all your contributions back, including the compulsory ones, with interest in due course and you may wish to use the scheme as a form of investment).

Alternatively you are not obliged to contribute more than five per cent: you may be already paying quite heavy contributions and wish to reduce them. How do you go about changing the supplementary part of your deductions?

There is a simple election form available from your Divisional staff clerk which will enable you to specify the supplementary component for which you want to contribute.

This supplementary component plus your compulsory component may not exceed 10 per cent except for those people who are already contributing more than five per cent of salary and to whom special ceilings apply. (Any contributors joining the scheme after 1 July will be obliged to contribute five per cent of salary with a maximum contribution of 10 per cent.)

It may be useful for existing contributors who are contributing in excess of five per cent to know exactly how their ceiling percentage is worked out.

Simply take the percentage of salary you are currently contributing, round it up to the next whole number, and add five per cent. For example if you are paying 11.321 per cent, round it up to get 12 per cent, add five per cent to get the ceiling figure of 17 per cent. This 17 per cent figure includes your compulsory percentage.

Anyone may elect to increase or decrease their supplementary contributions. There are two rules to be observed when making an election.

First, you may only elect to increase or reduce by 'whole' per cents, that is one per cent of two per cent or three per cent not one and a quarter per cent or two and a half per cent.

Second, although you may make an election at any time to increase your contributions once you make an election to *decrease* contributions you may not make another increasing election for another 12 months. You are not prevented from making a series of decreasing elections.

You may make your first election from as early as 1 July this year. The date on which an election takes effect is the payday following the date upon which it has been signed. (Remember that an election should be submitted to the RAO for action without undue delay after the date upon which you sign it.)

For example, if you make an election to reduce your contributions to your minimum (say five per cent) on 3 July the reduced contributions will operate from 8 July.

Occasionally there will be cases where a person receives a reduction in salary in the course of a year. Where this happens there is provision to reduce compulsory contributions from the higher level based on the earlier higher salary. These are rather special cases requiring one of the special elections also shown on the election form and advice should be sought from a Divisional Administrative Officer, staff clerk or the Regional Office.

Footnote (1): Your contributions are calculated on the salary for superannuation set for you annually on your birthday but pension etc. benefits are based upon the salary for superannuation purposes actually being received at the time you become eligible for benefits (e.g. invalidity, retirement etc.).

Example:

Salary for superannuation purposes determined at birthday 11 August 1976 of $10,000. Contributions based on this. Invalided out of CSIRO on 4 March, 1977 while earning salary of $12,000. Result: pension based on $12,000.

Footnote (2): How to calculate your contributions.

First find your annual salary for superannuation purposes, then divide it by 26 to get a fortnightly base (round this to whole cents). Then take five per cent of the fortnightly figure you have calculated and round it up to the next amount evenly divisible by 10 e.g.

List of allowances counted for superannuation.
Accounting machinist allowance
Data processing allowance
Graduate allowance
Higher duties allowance (12 months or longer)
Incremental allowance (ACT award)
Leading hand allowance
Married minor allowance
Overpaid allowance
Plumber's allowance
Purchasing allowance
Qualification allowance
Shorthand allowance
Supervisory allowance
Teleprinter allowance
Typing allowance

Salary for Super. = $4500 per annum
Fortnightly base = $173.08 per fortnight
5% = $173.08 x .05 = $8.65
Round up to $8.70 to obtain an amount divisible even by 10.

You may now use the five per cent figure you have just calculated as a base for working your actual amount of contributions. Examples based on above calculations:
Contributing to 3%, amount = 3/5 x 8.70 = 5.22
Contributing to 9%, amount = 9/5 x 8.70 = 15.66
An election to increase contributions by 1% would lead to an increase of 1/5 x 8.80 = 1.74.

Entomologists practice economy

The Division of Entomology representatives at the Long Pocket Laboratories, Indooroopilly, are practising economy and at the same time helping the Salvation Army raise funds.

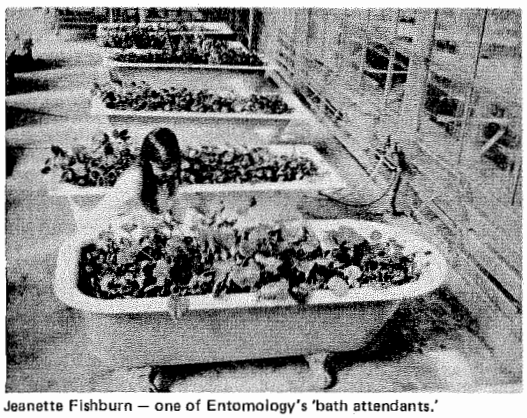
In a bid to conserve money it has taken to buying up some of the Army's supply of second-hand baths to use in its work on the biological control of weeds. This involves a project to control infestations of water hyacinth in Australian rivers.

The normal containers for growing the plants would have cost the Division anything up to $150 but section leader Dr Ken Harley and his colleagues searched around for something better and came up with the idea of second-hand baths.

The ones with round ends cost $5 while the square-ended ones are $10. More than 20 baths are now installed at the lab where the team is rearing a small South American beetle called *Neochetina eichhorniae* as part of the research program.

The beetle has been released by CSIRO to attack the water hyacinth in several Queensland and NSW rivers.

It has already caused visible damage to the weed but it may be several years before its effectiveness can be fully assessed.



Jeanette Fishburn — one of Entomology's 'bath attendants.'

Water hyacinth is an aquatic plant of South America and is popular here as an aquarium or garden pond plant. Carelessly discarded plants are believed to be responsible for infestations in Australian east coast rivers and the more serious infestations in Africa and North America.

The beetle eats the hyacinth's leaves while its larvae tunnel through the stalks causing collapse and rotting. It has passed rigid checks to ensure it will attack only hyacinth and no other plants.

'The weed's ability to spread swiftly means a single plant finding its way into a river system could eventually choke major rivers with enormous damage to agriculture relying on them for water,' Ken said.

The project is being sponsored by the Rural Credits Development Fund.

Considerable space has been devoted to material on the introduction of the new superannuation scheme in this month's edition of 'Co-research.' This has meant that a considerable number of other stories and pictures have been held out. It is hoped that these will be used in the July issue. —Editor.

INVESTMENT POSSIBILITIES

By R.W. Muncey

Most of us are now involved in the examination of how to use the wide options of the new superannuation scheme to our best advantage. A good deal of detailed knowledge will be required if the best judgments are to be made and costly mistakes could befall those who are not prepared to give the matter close attention or to seek informed opinion.

Under the new scheme we will all ultimately be paying at least five per cent of our annual salary in compulsory contributions. We will also have the option of paying at least five per cent more in the way of supplementary contributions.

The advantage of selecting a 'high' contribution rate is that the fund's interest rate is of the order of seven per cent and the return to contributors of contributions is not taxed. But it means that you lose control over at least part of your 'nest-egg' savings although it should be noted that contributions may be changed downwards at any time and upwards at any time after 12 months from the last downwards move.

For those among us who wish, for personal reasons, to save personally rather than leaving this money in the superannuation fund, the penalty is that the interest return on any investment is taxable.

A somewhat higher immediate return might well be achieved. To those who select this mode of action, I would want to highly recommend having a fortnightly contribution paid directly from their salary into one of the Organization's credit societies.

Interest rates paid are around nine per cent and moneys may be withdrawn at short notice. The advantages therefore are the more-or-less painless extraction and the personal liquidity that is offered.

Officers retiring now have the option of withdrawing their contributions in a lump sum and many may wish to do this.

Here again one of the CSIRO credit societies offering interest in the order of 10 per cent would be an ideal place to deposit lump sum moneys either for the moderate or long term.

Your credit societies are a secure and convenient way of investing your funds. The interest rate is in line with that available for comparable security elsewhere and the facilities available for withdrawal are reasonable.

Such deposits go by cooperative activity towards benefiting fellow officers or former colleagues seeking loan accommodation. Help yourself and your friends rather than some unknown 'they' (through the banks) or shareholders in public companies.

For further details and specific advice talk to your local DAO and for credit associations contact also Joel Belkin, 4191333 Melbourne, Joan Ryan, 2113400 Sydney, Robyn Rudd, 484211 Canberra.

Jubilee ball in Melbourne

The CSIRO Melbourne jubilee year ball will be held at the Camberwell Civic Centre, Melbourne, on Friday 6 August.

The Peter Williams Orchestra will be featured and the cost will be $25 per double, all inclusive.

Melbourne staff interested should contact their Divisional representative. Interstate staff will be particularly welcome and should contact the ticket secretary, Vi Kingham, at the RAO Melbourne direct for tickets.

Benevolent Funds report 'healthy' situation

There has been a slight increase in the number of staff who are contributing to CSIRO's four Benevolent Funds but there still remains a large number of people who have not so far given their support, states the third combined annual report of the Funds.

Membership of the Brisbane Fund is now 62 per cent of the staff, Canberra has 53 per cent, NSW 73 per cent and Southern 65 per cent.

The figures indicated that the overall situation was reasonably healthy in a year in which calls on the Funds had been relatively light, the report said.

It should be remembered however, that so far no calls had been made because of Cyclone Tracy (special arrangements had been made in this case through Canberra) and that some disbursements might yet be required.

Additionally it was expected that there would be some further assistance required relating to the aftermath of the Brisbane floods.

The report added that no increase in the rate of contributions was considered necessary this year. (The rate is 10c per fortnight, a sum deductible from staff members' pay packets.)

Acknowledgments

The success of the Funds was due to those individuals who gave willingly of their time and effort to carry out the duties that election to office in the Funds demanded of them, the report stated. The Chairmen of the four Funds placed on record their appreciation, and the appreciation of all members, for a job well done.

The Funds continued to receive considerable help and encouragement from the Chairman and the Executive of CSIRO and this was also much appreciated.

Brisbane

The Chairman of the Brisbane Fund, Dr D.J. Morton, in his report said his Committee had been grateful for a quiet year. They would like to publicise the activities of the Fund more widely but because any assistance given was regarded as confidential this could not be done.

He felt it should be made clear however, that the Fund was not a charity—it existed to help all members of CSIRO in times of difficulties.

One example which could be quoted was the case of those people who travelled overseas on their vacations. Normally, nothing happened to them but the Fund could provide a reassurance that it was ready to help in the unlikely event of difficulties.

'If this is known some fears and anxieties can be allayed,' Dr Morton said. 'This illustrates the point that we are continually seeking ways in which to help and make the best use of our resources.'

Canberra

From Canberra, the Chairman of that Fund, Dr D.J. Goodchild, reported that although the Fund was in a sound position, Darwin was in its area of responsibility and it was anticipated that the Fund might in the future be called on to assist staff with rehousing problems.

While there had been assistance from outside sources, it was thought that resettlement needs might arise when staff returned permanently to their homes. Dr Goodchild also thanked the CSIROOA for their generous donation of $1500 which would be specifically allocated for that purpose.

NSW

The NSW Fund had run smoothly throughout the year, its Chairman, Mr M. Puttock, reported. Fourteen grants totalling $1870 and nine loans totalling $1655 were made during the year, an increase of 39 per cent on the previous financial year.

Southern

The Southern Fund said that its idea of getting together in places other than Melbourne had been well received and its previous meeting held in Adelaide had been successful. It was hoped to have future meetings in Perth and Hobart but at present the cost of these was too great a strain on resources.

The committee had expected a greater demand for help as a result of inflation and unemployment, the Chairman, Dr A.J.C. Nicholson, said in his report, but this had not eventuated.

'We fear we are missing some cases of hardship. To my knowledge we have never received a request for help from a widow of a CSIRO staff member who retired years ago or from a former staff members who has left the Organization and become unemployed. We appeal to all members to keep their eyes open for cases such as these that might not come to our notice.'

Finance

The 1975 financial situation of each of the Funds is summarised below, together with the total figures for assets. The 1974 figures are given in brackets for comparison.

Income and Expenditure

Fund	Income	Expenditure
	$	$
Brisbane	1603 (10,166)	1933 (4,894)
Canberra	4479 (3,131)	322 (1,256)
NSW	5078 (4,740)	2207 (4,614)
Southern	6284 (6,356)	1352 (10,414)

Assets

Fund	Investments and cash	Outstanding loans
	$	$
Brisbane	7409 (6,604)	Nil (1,135)
Canberra	9657 (4,961)	454 (993)
NSW	14181 (11,970)	923 (491)
Southern	13470 (8,537)	Nil (Nil)
	44717 (32,072)	1377 (2,619)

Entomology Symposium

To mark CSIRO's 50th anniversary, the Division of Entomology is organising an acaricide resistance symposium at the Long Pocket Laboratories at Indooroopilly on 26-27 July.

The symposium will bring together graziers, dairymen and representatives from State government departments, CSIRO and from chemical companies that market acaricides.

The symposium is not intended to be a forum for the presentation of research results. Rather it is hoped that the main speakers will draw attention to problems and questions associated with their particular interest and that this will lead to a free exchange of thoughts and ideas and to a better understanding of resistance, its effect on the cattle industry, and what can be done to alleviate the problem.

Following an initial review of acaricide resistance, the program will cover the recognition and classification of resistance, the interpretation and application of laboratory tests for tick control, the future role of acaricides in tick control and the attitudes of the chemical industry to the use and development of new acaricides.

The symposium will be organised by the Officer-in-Charge of the Division at Indooroopilly, Dr R.H. Wharton, and will be limited to 60 participants.

ABC and CSIRO make film on climate

The first full-scale co-production between the ABC—TV and the CSIRO Film and Video Centre will be telecast this month in all States in the 'Perspective' series.

Called 'A change of climate,' the 50-minute documentary examines some of the theories for a major change of climate.

The making of the film closely involved the Antarctic Division of the Department of Science and CSIRO's Division of Atmospheric Physics and the Australian Numerical Meteorology Research Centre.

Roger Secombe of the Film Centre photographed, directed and edited the documentary, research for it was in the hands of John McQueen of ABC—TV and it was produced and narrated by Michael Daley of the ABC—TV Science Unit.

A number of CSIRO's staff and some overseas personalities 'star' in the production, not forgetting the appearances made by a daffy penguin and a gay seal.

For production dates, staff should consult their local TV programs.

Photograph: Alan Edward

The Acting Chief of the Division of Forest Research (left) inspects one-year-old *Pinus radiata* trees at Kowen Forest with Dr Wilf Crane (centre) and the Director of ACT Forests, Mr Ron Murray.

Field day for Forestry

Fifty people from government, industry, universities and several Divisions of CSIRO from the ACT, Victoria and New South Wales recently attended a field day organised by the Division of Forest Research at Kowen Forest in the ACT.

During the day the theory and techniques of plantation establishment were reviewed. These included cultivation (ripping), fertilisation and weed control.

Participants were able to inspect a one-year-old *Pinus radiata* plantation and forest-tree nutritional research established by the Division, work which is of particular interest to its Soils Section.

Research in this field has been in progress for 15 years and emphasis has been placed on diagnosing nutrient deficiencies and ameliorative techniques.

International award for CSIRO film

A film made at the Division of Wildlife Research entitled "The Comparative Biology of Lactation" has won the Most Outstanding Award in the first International Science and Technology Tokyo Film Contest in Japan.

The prize was presented at a function in Tokyo and was accepted on behalf of CSIRO by Dr C.A. Anderson, Counsellor (Scientific) at the Australian Embassy in Japan.

The function was attended by many dignitaries from the worlds of film, television, science and culture and the Crown Prince and Princess of Japan were among the guests.

The film has since been shown on Japanese television and has been seen in other countries.

The lactation mechanism of the different monotremes, marsupials and placental mammals is covered in the film which also shows how the milk itself varies among the different animals.

It was filmed by the Division's photographer, Ed Slater, and the script and scientific direction was the work of Dr Mervyn Griffiths.

The editing was done by members of the Film and Video Centre in Melbourne. The Division also had the co-operation of staff of the John Curtin School of Medical Research at the Australian National University and the Department of the Capital Territory in Canberra.

Last month Mervyn and Ed staged a presentation of the film in the National Library theatre in Canberra. Members of the Executive, Secretariat and other staff from Head Office, the RAO and the Canberra Divisions were among the audience as were representatives from outside organisations in the ACT.

Guests were warm in their praise for the film and were quick to congratulate those involved in its production.

'Coresearch'

'Coresearch' is produced by the Central Communication Unit for CSIRO staff. It is also circulated to some people outside the Organization who have a professional interest in CSIRO activities.

Members are invited to contribute or send suggestions for articles. The deadline for material is normally the first day of the month preceding publication.

Material and queries should be sent to the Editor (Dorothy Braxton), Box 225, Dickson, A.C.T. 2602, Tel. 48 4477.

In perspective

Courtesy 'Saturday Review'

Coresearch

A monthly publication for CSIRO staff

July 1976 206

Now he's Sir Robert

Picture: Eric Smith

Chairman is knighted in Queen's Birthday honours

The Chairman of CSIRO, Sir Robert Price, has been awarded the KBE in the Queen's Birthday Honours. He was one of a number of people associated with the Organization either as members of the staff or on the Executive, the Advisory Council or a State Committee to receive honours.

Sir Robert's award came in recognition of his services to science and government following a distinguished scientific career.

His services to science began after he graduated from the University of Adelaide and went to work under Professor Robert Robertson at Oxford University. After graduating D. Phil. he became Head of the Chemistry Section at the John Innes Horticultural Institution in 1937.

Two years later when war broke out he transferred to the Ministry of Supply and worked on propellants and explosives.

In 1945 Sir Robert returned to Australia and joined CSIR's Division of Industrial Chemistry. In 1960 he was appointed Officer-in-Charge of the Organic Chemistry Section and the following year when the Section became a Division, Sir Robert took over as its Chief.

He became Chairman of CSIRO's Executive in 1970 on the retirement of Sir Frederick White.

The official honours list included:

Frederick Munro Wiltshire, South Melbourne, part-time Member of the Executive; Kt. For services to science and government.

Laurence Charles Brodie-Hall, Chairman, Western Australian State Committee; CMG. For services to mining and associated development and to the community.

Thomas Baikie Swanson, South Yarra, Member Advisory Council; CBE. For services to education.

Dr Donald Eric Weiss, Chief, Division of Chemical Technology; OBE. For public services.

Ronald William Shearstone, Laboratory Craftsman, Division of Radiophysics; BEM. For public services.

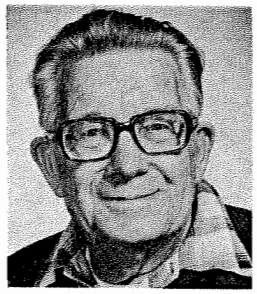
Ederic Charles Slater, Photographer, Division of Wildlife Research; BEM. For public services.

Dr Charles Henry Brian Priestley, Chairman, Environmental Physics Research Laboratories; AO. For services to science.

Dr Nancy Tyson Burbidge, Division of Plant Industry; AM. For services to botanical science.

Miss Catherine Alexis Nicholls, Division of Wildlife Research; AM. For services to the community.

Dr Thomas Athol Pressley, Division of Protein Chemistry; AM. For services to science, particularly in the field of textile research.



Ron Shearstone, a Laboratory Craftsman at Radiophysics.

Lexie Nicholls with one of the many distressed birds she has cared for.

Lord Casey dies

When the death occurred last month of the former Governor General, Lord Casey, CSIRO lost an old and greatly respected friend.

Lord Casey entered Parliament in 1931 and was appointed Minister-in-Charge of CSIR in 1937.

He was a familiar figure to CSIRO staff and even at the time of his death had an office at the RAO at 314 Albert Street, Melbourne.

Lord Casey relinquished his first Ministerial responsibilities soon after the outbreak of war. However, on his-re-election to the House of Representatives in 1949 he was reappointed to a similar position.

He retained his portfolio until 1960 when he was elevated to the peerage. He then became a part-time Member of CSIRO's Executive.

At the time of Lord Casey's death, the Chairman, Sir Robert Price, said the Organization had lost one of its most valued advisors.

'I know the Executive and the staff join me in mourning the passing of a man who contributed so much to the Organization both as the Minister-in-Charge of CSIRO and later as a member of the CSIRO Executive,' Sir Robert said.

'His contribution to the growth and development of the Organization since 1937 is so significant it is difficult to measure accurately.

'He acted as both advocate, critic and advisor to the Organization and in those capacities played a leading role in moulding CSIRO into the Organization it is today.

'As the Minister responsible for CSIRO, he was prominent in spelling out the value of science to Australia in terms of increased productivity.

'He certainly put science before the Parliament and the people of Australia in a way that not only brought attention, but support for the expansion of scientific research.

'I have no doubt that without his understanding, his sympathy and his enthusiastic support both inside and outside the Parliament, CSIRO and Australian science generally, would not be as well developed as they are today,' Sir Robert said.

Assistant Chiefs appointed

Two new Assistant Chiefs have been appointed. They are Dr W.H. Southcott of the Division of Animal Health and Dr I.G. Jarrett of the Division of Human Nutrition.

CSIRO jubilee stamp

Dr C.A. Appleby of the Division of Plant Industry was among early customers at the Philatelic Bureau at the Canberra City post office when CSIRO's jubilee stamp went on sale last month. Both the Canberra City post office and the Melbourne Philatelic Bureau had special CSIRO jubilee displays for the occasion. Other post offices throughout New South Wales also displayed CSIRO material.
Photo: Canberra Times

The high fliers of Cloud Physics

Back in 1952 Cec Maher, now a technical officer with the Division of Cloud Physics in Sydney, was a navigator in the RAAF. His log book shows that on 10 July of that year he was on operations flying a RAAF DC3—A65-97— between Iwakuni, Pusan and Seoul.

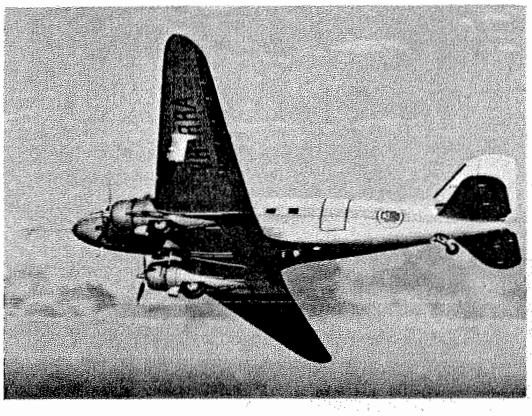
It was, in the RAAF vernacular, a milkrun. The DC3, a transport aircraft, flew supplies, ammunition and mail up to the forward lines of the Korean battlefront and returned with men who were either being evacuated to hospital or who were going on R and R leave.

Cec's log book also shows other flights he made in that same aeroplane during the Korean war.

A year before Cec was flying in the plane, Arthur Tapp, another technical officer in the Division, flew with A65-97 as a navigator on a flight between Malaysia and Japan—ultimate destination Korea. He had also been a member of its crew when the plane was based at Schofields, a wartime RAAF base near Sydney.

The experiences the two men had in A65-97 would probably just have gone into the limbo of wartime memories had it not been for a couple of strange coincidences. Both Cec and Arthur were to join Cloud Physics after they left the RAAF and A65-97 was to become the Division's own aircraft.

'It was something of a surprise to find our DC3 was the same one we'd flown under wartime circumstances,' the men said, 'but it was a good reunion. You become attached to them.'



The Division of Cloud Physics aircraft on one of its research flights.

Civilian

The DC3, which now bears the civilian registration number VH-RRA, is a familiar sight around many Australian airfields, particularly at Mascot where it is normally located when not away from its base. The plane is distinctive with its white fuselage with blue stripes along the sides, the long proboscis on its nose and its Cloud Physics insignia.

VH-RRA's history is a long one. It was built in 1942 and used by the RAAF until it was allocated to CSIRO in 1964. The following year CSIRO bought it from the Airforce and since then it has been operated for the Division by East West Airlines.

EWA's Special Aircraft Section maintains the plane and provides the pilot, first officer and engineer whenever it is to be flown.

The Division provides additional aircrew, usually Cec, Arthur or John Meadows.

About half of the Division's scientific staff uses the aircraft for various research programs. They include the Chief, Mr Jack Warner, and Drs Sean Twomey, Pat Smith, Stan Mossop, Chris Coulman and Keith Bigg, assisted by Messrs Ron Cottis, Malcolm Parker and Mrs Lorraine Wakefield who operates a computer on board.

Instruments

Over the years the pilots have grown used to the peculiar requirements of the high flying scientists and a close working relationship exists among them.

The main passenger cabin of the plane carries only six seats near the rear and the whole of the forward area is occupied by rack after rack of electronic equipment to control the various measuring devices mounted outside the aircraft and record the data from them.

Instruments of one sort or another protrude from the fuselage or hang below the wings, so that when all possible instruments are on board VH-RRA looks like a flying porcupine.

Some of these sensors record the properties of the air, such as temperature and humidity, others gather information about the clouds the plane flies through, for example, the concentration and size of water drops or ice crystals in the cloud.

The most striking protruberance on VH-RRA is the nose probe which carries light vanes for measuring air movements. These have to be located in air undisturbed by the passage of the aircraft, hence the long nose probe.

This sensing device is used to study the rising currents of air in which clouds form. This is done both by flying through the clouds themselves and by making traverses at various levels in the clear air below them.

Puzzle

How do the tiny droplets of which a newly formed cloud consists, eventually grow to the size that fall on the ground as raindrops? This is the main puzzle in cloud physics, still not fully unravelled despite years of study throughout the world with instrumented aircraft such as VH-RRA.

In clouds that form in clean air over the sea there are few droplets, and by colliding with one another they can grow large enough to become raindrops.

Air that has spent a long time over land gives rise to clouds that contain many tiny drops which may be too small to collide with one another. The number of drops in a unit volume of air has a direct bearing on whether rain will fall.

For studies of drop concentration and size, VH-RRA has several instruments, the newest being a device which shines a laser beam at the drops and measures the amount of light they scatter.

In clouds whose tops are colder than 0°C, ice crystals may form and grow, subsequently falling and melting to give raindrops. The aircraft is well equipped to measure the number of crystals and their size.

Changes

No instrument on VH-RRA is regarded as permanent. Improvements are continually being made and new ways found of obtaining more information.

The swing is now towards instruments that provide information that can be fed directly into a computer.

The aircraft is also used by other CSIRO Divisions, the Department of Aeronautics at Sydney University, and the Meteorological Bureau.

One research program involved staff from the Division of Entomology who were investigating the nocturnal flying habits of midges in Queensland. At first, attempts were made to catch the insects with scoops like butterfly-nets while flying at low level up a creek bed.

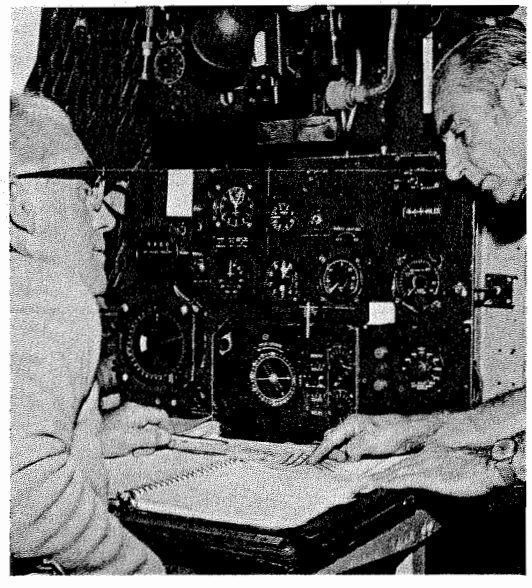
Later it was found more effective to smear the leading edge of the wing with grease and count the number of midges adhering to it when the plane returned.

The DC3 had a brief interlude in the public eye when it was used, thinly disguised, by the ABC in the TV serial 'The Contrabandits', where it appeared as the plane used by the drug-runners. A memento that remains of that assignment is a sticker on the wall which says 'Coffee, tea or Cuba?'

In the meantime since spare parts for DC3s are becoming more difficult to obtain as are maintenance staff experienced to handle this type of aircraft, the Division is keeping its collective fingers crossed that nothing breaks down with its veteran warhorse—especially when it's airborne.

Above: The Chief of Cloud Physics, Mr J. Warner, (right) has answers ready for questions about VH-RRA posed by the Minister for Science, Senator J.J. Webster, when he inspected the aircraft.
Pictures: John Masterson

Below: Cec Maher (left) and Arthur Tapp work out a flight plan on board VH-RRA.



1976 Pawsey Medallist

The 1976 Pawsey Medallist is Dr W. Miller Goss who has been associated with CSIRO's Division of Radiophysics since 1967.

The medal has been awarded to him by the Australian Academy of Science.

Dr Goss came to the Organization from Berkeley, California, to carry out investigations on the interstellar medium with the Parkes radio telescopes.

During the next three years, he discovered many new regions in the southern Milky Way where there were emissions from hydroxyl radicals.

He participated in an investigation of the distances to galactic radio sources by using the Parkes interferometer to observe neutral hydrogen gas.

After several fruitful years spent in Germany and the Netherlands Dr Goss returned to Australia in 1974. Since then he has continued his work on spectroscopy of gas in the Milky Way with the Parkes telescope, concentrating particularly on the maser emissions from water vapour molecules.

Dr Goss is also now involved with a joint program of observations of radio sources using the Fleurs Synthesis Telescope of the University of Sydney.

Acting Chief

Dr K. Rachel Makinson has been acting Chief of the Division of Textile Physics in Sydney while the Chief, Mr A.R. Haly, has been overseas.

Awards for wildlife photographer

Charles E. Purday, biological illustrator and photographer at the Division of Fisheries and Oceanography, can't break the habit of taking pictures even in his spare time. He had four prints accepted for the 19th Maitland International Photographic Exhibition. Of these four, one was awarded a Certificate of Merit and one an honourable mention. The former was a photograph of goose barnacles and the latter the birth of a blue ringed octopus.

In 18 international exhibitions so far, Chick has had 50 prints accepted, and has been awarded the Photographic Society of America Wildlife Medal twice and has received six Certificates of Merit.

CSIRO personalities retire in Canberra and...

On the morning of 27 May Buck Taylor was experiencing some difficulty in concentrating on his work as the supply and contracts officer for the RAO in Canberra.

Two other lines of thought were occupying his mind—one in the future, one in the past.

To begin with, he was due to retire the next day and set off on a four months tour of Europe with a former CSIRO colleague, Jack Cotterill, and their respective wives.

And the past? Buck couldn't help thinking about where he had been exactly 35 years previously. On 27 May 1941 he had been a signals officer in HMS King George V and was engaged in the famous sea battle that brought about the sinking of the German warship Bismark.

The outcome of that Atlantic battle has gone down in naval history as being one of the great sea sagas but for Buck it had a sequel.

Some years later after he had emigrated to Australia and joined CSIRO he had occasion to meet a representative of the Zeiss Company from Germany. The man with whom he was discussing supplies turned out to be a survivor from Bismark, the only one he was ever to meet.

Buck joined the Organization in 1951 after what, he recalls, was the most unusual interview anyone must have had.

'I'd been a purchasing officer in the UK but we decided to emigrate here to get away from the rat race.

'We initially went to live at Narooma on the South Coast and it was there that I saw the ad for the RAO position.

'I decided to apply and was asked to go to Canberra for an interview with Ken Prowse. I was told to bring my service papers and any education certificates I had.

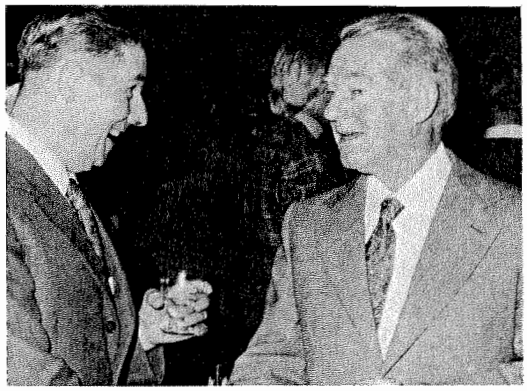
'Ken looked at my service papers, noted there was no "dishonourable discharge" on them and then suggested we go to his club for a game of snooker and a glass of beer.

'I wasn't sure what was happening but fell in with his suggestion and we had a pleasant hour. Afterwards I gently raised the subject of the job and Ken looked at me with a bit of a surprise as though I should have known the outcome. "Oh," he said, "it's yours. No problems. When can you start".'

During his time as the RAO's supply and contract officer Buck bought many intriguing—even peculiar—items for CSIRO. These included bras for sheep to restrict them from feeding their lambs except at certain times, Bundy clocks for recording the drinking habits of animals, beer dispensing guns which were used for controlled watering of plants, and theormos stoppers for the fistulation of sheep and cattle.

Buck has a home in Canberra which he plans to keep, another down the South Coast and in between commuting from one to the other, he plans to tour Australia in a motorised caravan.

Buck wanted no formal farewells but since he was one of the most popular identities around the Canberra region, it was small wonder that there was a sudden outbreak of parties around the CSIRO sites to all of which he was invited.



Jim Shannon (right) came back to Black Mountain to have a farewell drink with Buck Taylor (left) and about 200 former colleagues. Jim joined CSIRO in 1960 and became site services officer for the Black Mountain Divisions and Sections after a period with the former Central Administration Office and then Plant Industry. He retired for health reasons earlier this year.

...in Melbourne

Staff at the Division of Chemical Physics have said goodbye to their senior optical finisher, Charlie Alldis, with mixed feelings—pleased to see Charlie looking forward to his retirement after nearly 20 successful years with CSIRO, but sad to lose such a friendly and highly skilled colleague.

In a word, Charlie Alldis was a craftsman, and interestingly his career followed a path first laid out by the early members of his trade more than 350 years ago.

Just as the first telescopes were made by spectacle makers in the early years of the seventeenth century, so Charlie spent the first 17 years of his working life making and repairing spectacles; only then did he turn his glass grinding and polishing skills to the manufacture of optical components for scientific instruments.

In the scientific field he worked for 16 years as an optical finisher at the Defence Standards Laboratories at Marybyrnong before joining CSIRO in 1957.

At the Division of Chemical Physics, Charlie's skills and ability to put an optical finish on many other materials as well as glass, were highly respected among the scientific staff. He was of great assistance in optical design work, and, as one workshop colleague put it, 'especially good at talking scientists out of impractical schemes!'

Charlie's ability to prepare glass surfaces of exceptional flatness was a key factor in the success of the Division's diffraction grating ruling and replication program.

Fortunately he has left behind him a new generation of optical finishers to carry on this invaluable line of work and the signs are that the three young men apprenticed under him have also picked up some of his patience and desire for quality workmanship. In the past few years all three apprentices have won top awards for optical finishing exhibits during Victorian Apprenticeship Weeks.

And the new life for Charlie? Part of his time will be spent in accumulating evidence to support his contention that Carlton is greatly superior to Courage. He will also give some attention to less serious pursuits such as playing bowls, going on holidays and gardening—and he has vowed never to get up before 10am.

Letters

Flexitime

On at least two occasions in the last six months I have seen written references by staff representatives to the notion that flexitime is designed primarily to enable staff to work more efficiently.

This was certainly not my understanding of its raison d'etre and having just seen a reminder that this is truly so, I thought it perhaps a responsibility to bring this fact through your columns, to the attention of whoever might be interested, as I am sure very many of them will have the same (mis) understanding as I had had.

Mr Rattigan (Coresearch, March 1976) is to be admired for his concern that the possible false economy measures in one Division should inhibit the proper discussion of the pros and cons of the desirability of staff working more efficiently.

Perhaps Dr Price would be kind enough to consider up-dating his remarks in paras 2 and 8 of his PRI of 9 July 1973?

R.W. Potent,
RAO, Sydney

Head Office Staff Section advise that Dr Price pointed out in his 1973 press release that the flexible working hours trials then soon to be introduced into CSIRO would recognise the increased concern being shown by management today for the needs of the individual in a society of growing complexity.

Evaluations to date indicate that staff members participating in the trials are able to use their time more efficiently by varying their working hours to accommodate the demands of both personal and CSIRO business.—Editor.

Information

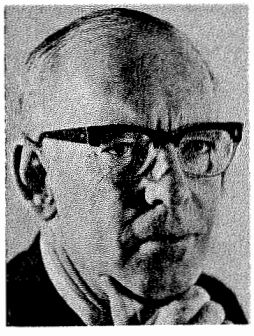
With staff and budget cuts we cannot afford to waste time these days. Information shared is time saved. My heart always warms to someone who sends me a photocopy of an article which may be of value to me, but if I subsequently waste two days chasing up the reference when I want to quote the material, then I feel a sense of sadness that so much salary and time is wasted.

I notice with disappointment that CSIRO publications have fallen into the trap of not putting the source and volume number on each page. This may cost a little more but could save in the long run.

Anyway when you are sending material to anyone else, please put journal, volume, number, year and pages on your hand-out.

June Olley
Tasmanian Food Research Unit

Forestry Chief appointed



Dr Max Day has been appointed Chief of the Division of Forest Research. Dr Day took over the position of Acting Chief last year when the Division became part of CSIRO.

TEACHER DEVELOPMENT PROGRAM INITIATED

Members of the ACT Agricultural Science Teachers' Association recently approached CSIRO for help with their Teacher Development Program. They expressed particular interest in agricultural conditions in the Canberra area and the research work being done by the local CSIRO Divisions.

Eight scientists from three Divisions in Canberra combined with two outside speakers in a course organised by CSIRO's Central Communication Unit in conjunction with the Canberra Teaching Resources Centre.

Those involved in the course were Dr Pat Walker and Dr Jeff Colwell from Soils, Dr Roger Kitching and Dr Bob Taylor from Entomology, and Mr Geoff McKinney, Dr Roger Gifford, Dr Rex Oram and Dr Alan Gibson from Plant Industry.

The course proved popular with the teachers and provided some quite lively question-and-answer sessions. It also opened up channels of communication between teachers and scientists for the future.

Coresearch

Head Office is anxious to bind several more complete sets of 'Coresearch'. If anyone has any of the following copies which he or she would be willing to part with the Editor would be pleased to hear about them. Please don't send the actual copies at this stage. Nos 1-26 and single copies of 15, 24, 34 and 132 are the most urgently required.

WA display for AMP

The efforts of the Division of Land Resources Management communications group are making an impact on Perth city-goers.

A 'talent scout' from the AMP Society in Perth recently spotted a photographic display in the foyer of the Floreat Park Laboratories, which describes the Division's main research areas.

He decided that they would be ideal in the entrance hall of the AMP's new multi-storey office tower in bustling downtown Perth, and there they have been for the past few weeks.

The display has been seen by many of Perth's residents, and has helped to not only let the locals know what CSIRO is doing, but also to emphasise some of Western Australia's most pressing ecological problems.

Address change

The Australian Scientific Liaison Office in London has a new address. It is now Canberra House, 10-16 Maltravers Street, London WC2R 3EH, England.

Industrial award

Bruce Wilson of the Division of Chemical Engineering, Clayton, is the winner of the Industrial Chemistry Essay Award for 1975 conducted by the Royal Australian Chemical Institute.

The competition carries a prize of $400 which is financed by a trust fund established by the late Augustus Wolskel, a foundation member of the Institute.

The essay entitled 'Changing standards for industrial pollution—benefits and costs' will be published in the Institute's proceedings.

OBITUARIES

Miss B.Thomas

There's a story told in Head Office about a lady who sometimes rushed out of 314 Albert Street, Melbourne, up the road and round the corner into Victoria Parade where she would hail the driver of the tram and ask him to wait a moment as Sir George Julius was coming.

Miss Bronwen (Bronnie) Thomas, the lady who stopped the tram, died last month at the age of 68.

Bronnie started work as a typist at the Institute of Science and Industry, a predecessor of CSIR and CSIRO, in 1923 at the age of 15 when there were only half a dozen girls on the staff.

For the next 44 years, until her retirement in 1967, she was employed by the Organization, working first in the typing pool and later as secretary for many senior administrators, including Sir George Knibbs, Mr G. Lightfoot, Mr G.A. Cook, Dr S.H. Bastow, Mr L.G. Wilson and Mr J. Coombe.

Her colleagues recall: 'Bronnie was an extremely loyal person, devoted to the Organization and to the people for whom she worked.'

Tremendously hard-working, Bronnie set herself very high secretarial standards which she maintained despite spells of ill health.

In 1967 Bronnie's long and outstanding service to CSIRO was recognised with the award of the Imperial Service Medal.

All those associated with Bronnie have their own stories to tell for they were 'enormously fond of her', but perhaps Sir Frederick White, Chairman of CSIRO from 1959-1970 best sums it up when he writes:

'I was saddened to hear of the death of Bronnie Thomas.

'When I went to the Head Office in Albert Street she had already been helping the cause for scientific work for 22 years. She joined the group of those who served the first Advisory Council and then the Institute of Science and Industry as a junior typist in April 1923. She was one of the small band of senior and experienced ladies who assisted the first secretary, Gerald Lightfoot, and then George Cook when he took over. To me, a newcomer, her experience of people and their ways in CSIR was most helpful.

'We became close friends in our work for science and CSIR. At the ANZAAS meeting in Hobart I was asked if the task of the Executive today differed from that of the first Executive Committee in 1926. It must be so, for they had the unique task of founding an institution which they hoped would endure over the years. Everyone in those days played a part in creating a new national scientific and administrative activity. I have always felt the scientists owe a debt to the efficient work of all members of the administration.

Bronnie Thomas was, in her day, an important contributor to the success of CSIRO.'

Dr L.A.T. Ballard

Dr L.A.T. (Les) Ballard, who retired last year after 26 years with the Division of Plant Industry, has died in Canberra at the age of 65.

Les joined CSIRO from the Waite Institute as a plant physiologist and in 1953 he was transferred to Canberra to head the newly formed Plant Physiology Section. His interests included flowering in plants, the action of plant growth regulators and, more recently, the control of germination in seeds.

He discovered the effect of carbon dioxide in promoting the germination of many seeds and demonstrated the importance of the strophiole in controlling germination in hard-seeded legumes. The significance of this mechanism in the persistance of legumes in pastures is only now being realised.

Through his membership, as CSIRO's representative, of the International Seed Testing Authority and of several Australian seeds committees, Les was able to further his interest of extending seed research to agriculture.

He was one of the early enthusiasts for building the phytotron at the Division of Plant Industry and played a leading part in the design studies.

'Coresearch'

'Coresearch' is produced by the Central Communication Unit for CSIRO staff. It is also circulated to some people outside the Organization who have a professional interest in CSIRO activities.

Members are invited to contribute or send suggestions for articles. The deadline for material is normally the first day of the month preceding publication.

Material and queries should be sent to the Editor (Dorothy Braxton), Box 225, Dickson, A.C.T. 2602, Tel. 48 4477.

Scientists to talk to community

A scheme to introduce CSIRO's activities through panels of speakers in the various States and Territories has been launched as part of the Organization's jubilee program.

For many years the Organization's staff have accepted invitations to speak at various functions organised by community groups but it has never previously been on an officially organised basis.

During the last month or so, Mr Harry Black, adviser on community relations at Head Office, has been co-ordinating the speaker scheme and has met with support and enthusiasm from Divisions.

'Talking to the staff, I've found that most of the volunteer speakers agree that such a scheme can achieve more than merely inform the public about different facets of CSIRO's work,' Harry said. 'It can also play an important role in the long term strategy necessary to educate the public about the realities of research.

'Community organisations, many hundreds strong, generally meet frequently and are always on the lookout for speakers on interesting subjects. The potential "market" is enormous.'

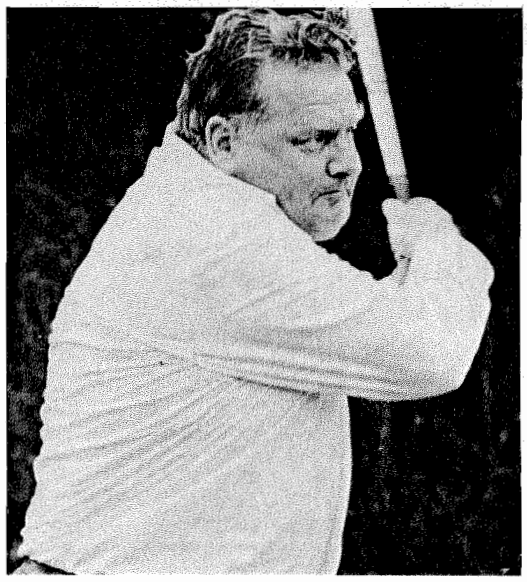
Community organisations already approached have welcomed the idea of a CSIRO speaker scheme with enthusiasm, Harry said. A recent UK survey showed that the general public regarded science subjects as more interesting than most of the better known subjects presented in the media. They felt that they were told too little about science.

The scheme is being organised on a regional basis and the Sydney region will be the first to see it in operation. Speaker panels will operate in other regions as soon as the number of volunteer speakers builds up to a viable level.

Under the scheme, each speaker nominates such constraints as when, where and how often he is available. A contact officer in each region will act as a clearing house for requests, putting clubs in touch with appropriate speakers and protecting each member of the panel from the pressure of too many requests.

Head Office has prepared speaker kits containing general information on CSIRO, a list of CSIRO achievements, hints on presentation and general guidelines. Colour slide sets will be available when required.

Muncey golf cup



Jock Currie, Division of Building Research, in action on the golf course. Picture: Helen Niblett.

More than 100 players took part in this year's Forest Products Golf Day at Patterson River Country Club. As usual, the day's sporting activities were followed by a social gathering which included a dinner party.

1976 winners were:

Muncey Cup: Chemical Technology (George Davies, Tony Sioumis, Bill Raper, Alan Logan), 99.

Morning Trophy: Alec McKenzie, DCT; runner up, Jack Pattison.

Afternoon pairs: George Davies Tony Sioumis; runners up, John Wood, Min. Chem., Duncan Constable, Min. Chem.

Nearest the pin: (9th) Les Wealands, Vic. Forests Comm., (18th) John Wood.

Longest Drive: (10th) John Kelly, Chem. Eng.

Encouragement trophies: I. Santer I. Wilson, W. Wilson, R. Simon, J. O'Toole.

Staff invited to Open Days at MRL

The Minerals Research Laboratories are holding their Open Days at their North Ryde site from 12-16 August to mark Jubilee Year. It is over 10 years since these laboratories (then the Division of Coal Research) were open to the public and their size and scope of research have changed greatly in that time.

Three Minerals Research Divisions are represented at North Ryde—Mineral Physics, Mineralogy and Process Technology—and they are providing over 50 displays to illustrate the range of their work.

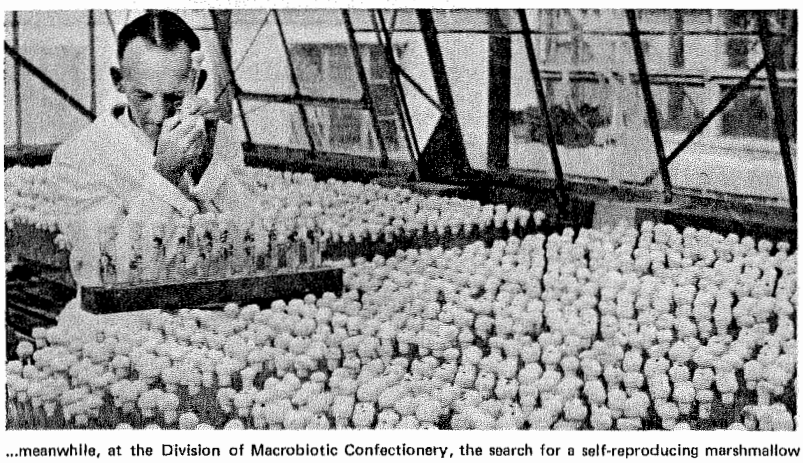
The exhibits will be arranged into subject groups so that visitors can select their own areas of interest. These will include: Exploration, mineralisation, mining and concentration, environment, and energy.

A sixth group, called Site Services, will highlight the role that supporting staff such as librarians, photographers and laboratory craftsmen play in a research project.

The research displays will cover topics such as simulated colour photographs of the earth from satellites, microanalysis by an electron microprobe, the processing of iron ores for steelmaking, field investigations of atmospheric pollution, and the conversion of coal to gas and liquid fuels.

The first day and a half will be invitation-only days, but members of the public, particularly CSIRO staff and families, are welcome to visit North Ryde during the following times: 13 August, 1-9 pm; 14 August 2-5 pm; 16 August 9 am - 5 pm.

Science at work



...meanwhile, at the Division of Macrobiotic Confectionery, the search for a self-reproducing marshmallow goes on...

Jubilee program

Open days

9-10 July, Land Resources Management at Alice Springs Show
16-17 July, Tropical Crops and Pastures at Katherine Show
22-23 July, Atmospheric Physics, at Aspendale
22-23 July, Textile Physics, at Sydney
29-31 July, Applied Geomechanics at Adelaide
12-16 August, Minerals Research Laboratories at North Ryde, Sydney
23-25 September, Animal Production at Armidale
18 September, Animal Health at Melbourne
27-28 October, Animal Production at Prospect
Mid-October, Horticulture at Merbein

Special functions

14 July, Launching of jubilee book 'Surprise and Enterprise' at National Press Club, Canberra.
26-27 July, Entomology Acaricide Symposium at Longpocket Labs, Brisbane
5 November, Human Nutrition Symposium, Adelaide

Coresearch

A monthly publication for CSIRO staff

August 1976 207

Darwin residents entertained

The Administrator of the Northern Territory, Mr John England, the Mayor of Darwin, Dr Ella Stack, Northern Territory politicians, directors of government departments and other prominent people in Darwin were the guests of the Divisions of Wildlife Research and Forest Research last month at morning tea.

The function was held to take advantage of the jubilee audio visual presentation 'CSIRO: the first 50 years' being in the area.

The show was run through for the guests who were then able to discuss various research programs with the scientific staff of the two Divisions over coffee.

Considerable interest was shown in the research activities, particularly those related to the Northern Territory and especially the work that was being done from Darwin.

Later, the public of Darwin was invited to attend sessions that were run throughout the day and special showings were held for a number of school children.

The show was presented in the gallery of the Northern Territory Museum which, since the cyclone, has been located on the ground floor of a building in town.

Staff from the Museum cooperated with the Divisions, making it possible for many people to get an insight into CSIRO activities.

Minister's visit

A recent visit by Senator J.J. Webster, the Minister for Science, and Mr Peter Fisher, the local Federal Member for Mallee, to the Merbein Laboratories of the Division of Horticultural Research provided a pleasant occasion for a staff luncheon at which locally produced avocados and wine featured.

The guests subsequently toured both Laboratory facilities and field plantings, culminating in an 'on the spot' assessment of the work done by the Division in the field of small scale vinification.

Retirement

In Washington, Dr E.G. (Taffy) Bowen, Counsellor (Scientific) in the Australian Embassy has retired and will live privately in that city in the meantime. His decision to retire before his term was completed was the outcome of the Government directive to reduce staff at overseas posts.

Mr J.H. Whittem, who was formerly Scientific Attache, will now be designated Counsellor (Scientific).

'Surprise and Enterprise' launched in Canberra

'Surprise and Enterprise', the book CSIRO has published as part of its jubilee activities was launched last month by the Minister for Science, Senator J.J. Webster, at a function at the National Press Club in Canberra.

The book has been written by Melbourne journalist, Andrew McKay. The paintings which illustrate it are the work of Robert Ingpen, a former member of CSIRO's Division of Fisheries and Oceanography and now a design consultant in Victoria.

The editors were Sir Frederick White, a former Chairman of the Organization, and David Kimpton of the Central Communication Unit.

Speaking at the function, Senator Webster said CSIRO's most valuable single asset in political terms was informed customers.

People were becoming increasingly critical of science and more uneasy about the role of scientific research organisations in society.

'It is Government policy—a reflection of community attitude—that public funded bodies should be expected to be able to explain and if need be justify their work,' he said.

'To do this effectively they must establish good communication with their customers.

'I believe I would not be stretching too long a bow by saying that CSIRO's most valuable single asset—and I suppose mine too in political terms—is an informed clientele.'

Senator Webster said 'Surprise and Enterprise' was 'not a once every 50 years publications.

'In fact it represents only a part of CSIRO's activity of communicating science to a wider readership...

'The prime motive behind CSIRO's communication activity is quite simple.

'Part of its charter is to communicate both the details and the results of its work.

'In practical terms this is letting people know what is available and by so doing, to encourage people—agriculturalists, industrialists, processors, scientists and citizens—to make use of the fruits of that research.

'Surprise and Enterprise' marked 50 years of service to Australia by CSIRO and its forerunner, the Council for Scientific and Industrial Research, Senator Webster said.

It contained stories behind research projects which have directly or indirectly touched on the lives of everyone.

'They demonstrate that Australia is no quiet backwater in the world scientific community.

'These projects represent significant steps in our progress and some of them also represent global advances in science and technology', he added.

'The title of the book neatly sums up the forces at play in scientific discovery.

'Sometimes the breaks come by chance, sometimes by sheer persistance, sometimes by penetrating insights which recognise the significance of the seemingly insignificant.'

The book is now on sale at $1.50 a copy following an initial offer to staff to purchase it at $1.00.

'RURAL RESEARCH' GOES ON SALE

CSIRO has broken with a 24-year-old tradition and made its quarterly magazine 'Rural Research' available to the public on a subscription basis.

The magazine, first published in June 1952, has previously been distributed only to people on a special free list, and to public libraries, educational institutions and special interest groups.

Beginning with last month's issue, it will now be available at an annual subscription of $4 for four issues, post free, to anyone.

CSIRO's other colour magazine 'Ecos', which reviews the Organization's research on environmental matters, is also available to the general public at an annual subscription of $4 for four issues.

Talk back program for 2CC

'My budgie has dropped into a pan of hot fat. How do I get the fat off its feathers?'

That was probably the last question any information officer in CSIRO could expect to get asked on a talk-back radio program that was devoted to building problems, but nevertheless it was one inquiry that was thrown at Bob Couper and Harry Heath from the Building Practices Group of the Division of Building Research when they went on air at 2CC in Canberra last month.

The show was arranged by the Media Group of the CCU in association with Building Research and Radio 2CC.

It was a live broadcast, and the men had no chance to monitor questions and select the most relevant. Instead, they had to face a barrage of them for three hours, handling each as it came over in the best way they could.

Someone asked them how to get soot off their rhododendrons and the smell of urine out of a carpet.

After the first four questions along those lines, none of which had much bearing on building problems, Bob decided to change tactics and for a few minutes he gave his listening audience a quick run down on the Division's activities and the sort of questions they would prefer to answer.

The queries settled down to being very much more practical—at least as far as Bob and Harry were concerned.

They answered inquiries about solar heating (diverted to Mechanical Engineering for a later answer), sticking windows, oil stains on concrete, condensation on walls.

'Anyone who agrees to do this sort of show obviously has to be prepared for anything but there's no doubt the interest was there. The switchboard was full the whole time and at the end of the live show since so many calls were still stacked up, the station asked us to answer more calls off air for half an hour,' Bob said.

One woman, whom Bob felt should win an award for persistence, said she had tried 17 times to get a line and others had held on for 15 minutes or so until they could get through.

Canberra, unlike some of the other capital cities, has no major building design of display centre where people can ring in their inquiries and this possibly accounted for some of the interest taken in the show.

FINANCE APPOINTMENT

Mr Howard Crozier has been appointed Senior Assistant Secretary (Finance and Properties) at Head Office. He succeeds Mr Ray Viney who retired from the Organization at the end of last month.

THERE'S NO BUSINESS LIKE SHOW BUSINESS-

'Sow this seed over an area of about 25 m^2 and observe its growth for yourself. If you wish, add a handful of super to the seed at sowing. (We recommend waiting for rain so that ants don't eat away all the seed.)'

If a thousand or so people take up the suggestion made by the Division of Tropical Crops and Pastures the next year or so should see the region around Katherine in the Northern Territory liberally coated with the tropical legume, Caribbean stylovar. Verano.

Hundreds of small packets of seed were included in information kits distributed to visitors to the Katherine Show last month.

The packages were given away in CSIRO plastic bags, devised by the Division for the jubilee activities which have now been staged across Queensland and into the Northern Territory.

Their latest venture was to take part for the first time in the Katherine Show, a project which was an undoubted success with the local people.

It was also a project which won them first prize in the government display section.

The Division of Wildlife Research in Darwin contributed to the success of the exhibit with a display showing some of their research in the region, the Department of the Northern Territory depicted their work with dung beetles and the tick problem, and Head Office, Canberra, sent their jubilee static display and the audio visual presentation 'CSIRO: the first 50 years.'

About 2000 people from all over the Territory were in Katherine for the two-day event, including the Administrator, Mr John England, who was among the contingent which travelled south from Darwin, politicians, graziers and hundreds of school children.

The Division's team at Katherine was augmented by their Assistant Chief, Ted Henzell, the Officer-in-Charge of the research program, Tony Evans, Roger Jones and Peter Thompson and the Officer-in-Charge at Townsville, Raymond Jones.

All were on hand to help the local staff which, under Bill Winter, the Officer-in-Charge at Katherine, had put in a lot of time and effort to get the display organised.

A great deal of interest in the Division's activities in northern Australia was shown by the visitors, particularly by those who are engaged in agricultural work.

Alice Springs

The previous week about 18,000 people made up a record attendance for the Alice Springs Show and again CSIRO was represented, this time by the Division of Land Resources Management.

The local staff, headed by the Officer-in-Charge, Colin Lendon, had the assistance of two members of the Division's Communications Unit, Justin Murphy and Maurie Woodward.

The men drove over from Perth with a mini-'CSIRO in the West' exhibit, which earlier in the year had been such a success at the WA laboratories.

Driving a utility and pulling a trailer, it took them six days to reach Alice Springs and the saga was not without its moments of excitement.

Not content with that adventure, however, Justin and Maurie then painted part of the Alice Springs laboratory, put up a display and then drove a packed utility all the way home.

Everyone on the Alice Springs staff joined Maurie and Justin at the showgrounds for the two days and helped to cope with the crowds that visited their marquee.

The Division's Communications Unit's new audio visual presentation on Australia's arid zone aroused a great deal of comment and its high standard of production won the Unit a lot of praise.

A reward for their effort came with the winning of second place in the competition for exhibits from government departments.

Brisbane

At the time of going to press the RAO in Brisbane was busily preparing for the CSIRO involvement with the Royal National Show during 5-14 August.

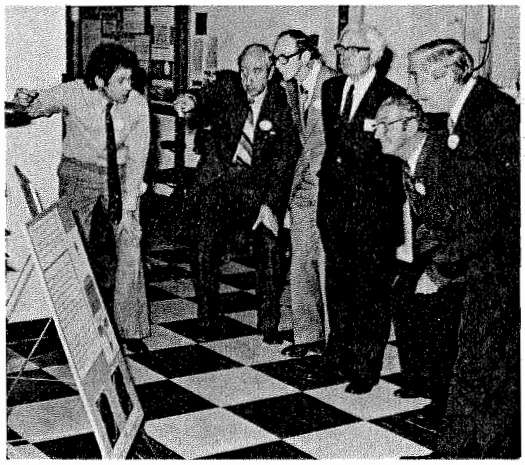
The Divisions from the Long Pocket Laboratories, Cannon Hill and Soils from St Lucia, and Computing Research, were all scheduled to take part in this, by the Regional Administrative Officer, Dave Thomas.

Mildura

The last Division planning to move into show business is the Division of Horticulture. Besides staging a three-day open house at its field station at Merbein in October, it will also take part in the nearby Mildura Show for three days the following week.

-even in CSIRO

Some of the team at the Katherine Show take a look at the award they won for the best exhibit in the government section. From left they are Mick Bainbridge (Department of the Northern Territory), Bill Beyer, Roger Haense (DNT), Jack Kruizinga and Raymond Jones.



Dr Allan Plumb of the Division of Atmospheric Physics explains the operation of the tropical cyclone simulator to (from left) Dr C.H.B. Priestley, Chairman of the Environmental Physics Laboratories; Dr D.H. Solomon, Chief of the Division of Applied Organic Chemistry; Mr V.D. Burgmann, Member of the CSIRO Executive; Dr W.J. Gibbs, Director of the Bureau of Meteorology and Dr S.D. Hamann, Chairman of the Applied Chemistry Laboratories.

'Come and see how science works'

Residents in the Melbourne area took the opportunity of touring the Division of Atmospheric Physics at Aspendale last month during its open days. Visitors were invited to 'see how science works'—and that's just what more than 2000 of them did!

Guided around a carefully chosen course of working models and exhibits, they were treated to a solar-powered model car and boat, a wind tunnel, a model simulating tropical cyclones, tree rings which hold the secret of climates in years gone by, and much more.

Contributions from other parts of CSIRO included dairy produce from Food Research, the Head Office audio-visual 'CSIRO: the first 50 years' and the equally ubiquitous Stan Boston with Textile Industry's Self-twist and Selfil spinning machines.

Because the open days were the first held at Atmospheric Physics in some 30 years, the staff were naturally apprehensive about what to expect. Would droves of schoolchildren bring the place to a standstill? Would people be at all interested in work at the Division? Would anyone turn up?

All fears proved unfounded, and Dr Brian Tucker, Chief of the Division, was delighted with the outcome.

Much of the credit for the success of the open days must go to Bill Shepherd and Peter Berwick for the organisation and to David Whillas for the visual aids.

But then open days are only as good as the receptionists at the door, the scientists at the displays and the staff manning the life-saving liquids in the tea room—and this was a good open day.

Careers Exposition at Geelong

More than 1500 students and their parents recently attended a Careers Exposition in Geelong.

For the second successive year the Division of Textile Industry took part in the event.

Last year a display centring on the Division's work was used to help staff members illustrate the work of the Division. According to the Division's liaison officer, Stan Boston, the staff had no difficulty coping with questions from people on the work of Textile Industry and local opportunities for careers but found problems in covering the Organization's overall activities.

To overcome the problem this year, the Division supplemented their own display by using the jubilee audio visual presentation 'CSIRO: the first 50 yeras.'

This, said Stan, greatly facilitated communication and its educational value was commented on by parents, students and teachers.

Considerable effort on the part of the staff goes into the careers advisory work but the Division is one which has always had a close relationship with the Geelong community and the time given to this is always appreciated.

OPEN DAY AT TEXTILE PHYSICS

The first bus load of high school students arrived at the Division of Textile Physics at the Ryde location on 9.10 am for the Division's open day on Thursday 22 July. It was followed by many more buses and private cars on that day and the next bringing something like 1500 school children to see the 21 exhibits.

Display

Depending on their degree of interest and the length of the queue visitors took between two and four hours to go right through the display.

The exhibits ranged from a reproduction of a conventional shearing shed (with appropriate recorded background music) through sophisticated fibre fineness measuring equipment to a walk through the old colonial architecture of the 'Hermitage,' the Division's original Blaxland residence.

Distinguished guests included a descendant of Gregory Blaxland, Mrs A.M. Glover, the Chairman, Sir Robert Price, the local (state) member of Parliament, Mr Lerryn Mutton, and several Chiefs of other CSIRO Divisions.

Jubilee Ball in Sydney

CSIRO Sydney will celebrate the jubilee year with a dinner dance at the Arncliffe Scotts Sports and Recreation Club, Arncliffe on Friday, 24 September. The cost will be $7.00 per head inclusive of drink float.

An invitation is extended to all staff, who should contact Miss Margaret Pennell or Mr Ron Gough at the RAO Sydney, or your Divisional organiser for tickets.

The RAO Sydney Social Club has organised a raffle which will be held in conjunction with the night.

Prizes include a return ticket for two to Coolangatta with TAA plus $50 spending money, and a dinner for two at the fully licensed Intermezzo Restaurant, Paddington. Tickets now available from your Divisional organiser or RAO Sydney for only $1.

Jubilee program

Open days

12-16 August, Minerals Research Laboratories at North Ryde, Sydney
18 September, Animal Health at Melbourne
23-25 September, Animal Production at Armidale
Mid-October, Horticulture at Merbein
1-2 December, Animal Production at Prospect
Applied Geomechanics at Adelaide, postponed to later date

Special functions

5-14 August, Royal National Show at Brisbane—Brisbane Divisions
15-17 October, Mildura Show—Division of Horticultural Research
5 November, Human Nutrition Symposium, Adelaide

ASLO changes in London

Dr F.G. Lennox, Minister (Scientific) in the High Commission in London has completed his appointment at ASLO and will return to Australia next month.

Mr R.M. Moore of the Division of Land Use Research, who will succeed him, will take up his appointment in October.

During the intervening few weeks, the duties of Minister (Scientific) will be undertaken by Mr J.F. Nicholas, Assistant Chief of Building Research, who will be overseas at that time.

Mr R.D. Croll, who was Attache (Scientific) at ASLO has also returned to Australia and has taken up a position with the Information Service in Melbourne.

Staff training programs involve wide range of staff

About 200 members of the staff—Chiefs, Assistant Chiefs, senior administrative staff from Head Office, the RAOs and Divisions, and other senior professional personnel—have now attended a CSIRO course in senior management. In all, 11 such courses have now been staged.

Notching up their 200th member has been a triumph for one of the smallest but most effective sections in Head Office, the Staff Training Group. Comprising only Don Gwynne (senior training officer), Bob Marshall and Gerda Zietek who assists with the administration, the group is achieving small miracles in the amount of work it manages to accomplish in relation to its size.

Running an average of four senior courses a year requires a lot of organisation but this is only a fraction of the work the group has taken on.

A number of courses for middle management have also been staged. These cater for technical, trade and administrative staff and some categories of professional people. They are designed to provide theoretical and practical instruction in management and supervision, human relationships in supervision, and counselling and interviewing techniques. The group hopes to hold another three of these middle management courses before the year is out.

Last year the group took over the responsibility for technical and trade development in CSIRO and subsequently a Central Advisory Committee to handle the scheme was established.

Since then State Committees have been set up with the responsibility of analysing training needs and availability of facilities in each region. A great deal of activity has already been generated by these committees and many programs have been organised.

In addition, Don and Bob are also organising seminars and workshops for staff engaged in a number of specialist activities such as photography, taxonomy, aerial satellite research and photographic interpretation.

Expansion

The training group was initially formed about 20 years ago but until about 1972 it was mainly concerned with courses for clerical staff and administrative work which it still continues.

Until 1974 it was almost a one-man band but then Don was appointed to the team with the specific object of extending the range of courses very much further across many more of CSIRO's staff.

This year, for instance, the group instituted a workshop for secretaries where one of the most successful sessions was a combined one with the women's supervisors. Another innovation for 1976 has been the program being conducted to 'train the trainers' who will advise staff on the new superannuation scheme.

Perhaps one of their most ambitious projects this year has been the introduction of a staff development program in the Central Information Library and Editorial Section which covers induction sessions for both professional and non-professional staff.

Another project to be included in their program later this year will be the training of information officers who constantly have to handle public inquiries.

Success

Part of the success of the programs which Don and Bob have instituted has been due to the Organization's policy that wherever possible or practical course participants should be taken out of their local work environment where many are at the mercy of telephone and other interruptions. This policy has applied particularly to the senior management courses.

By temporarily transplanting them into a residential conference centre at different central locations around the country, participants are able to 'turn off' from their ordinary work and concentrate solely on the course programs and the mental stimulus that comes from them.

Outside lecturers are frequently brought in and in the case of the senior management courses, two Directors of Studies alternate—Dr John Damm, Reader in Psychology at the University of Queensland, and Dr Evan Davies, Senior Lecturer in Industrial Psychology at the University of New South Wales.

Operating on the axiom that 'the mind is like a parachute. To function properly it must first be open' the different sessions first proceed to shatter some of the illusions participants may have about themselves and about their relationships with the staff they are supervising. They are faced with the complexities of matching organisational objectives with the nature of man and what motivates him and are given advice on how to cope with some of the situations they may encounter.

The course gives Head Office and RAO staff, especially those who are non-scientific personnel, a better insight into the needs of the research worker and conversely, the scientists taking part gain an understanding of the attitudes of the administrative workers.

Course sessions begin by 8.30am and go through until 5pm, resuming after dinner for four out of the five nights until about 10.30pm. Even on the one free afternoon participants find themselves still involved in discussions and about the only way to turn off the mental assault is in the refuge of places like the mind-blasting disco of the hotel or in a snooker room where concentration of a different nature is required.

Even sauna rooms are not necessarily sancrosanct although those hardy enough to brave outdoor swimming pools at 6.30am on winter mornings can usually be assured of being left to sort out their own special problems all by themselves.

Faced with management problems to solve, with interviews to conduct in front of a video camera and syndicate and plenary sessions, few participants survive the course without having to do a considerable amount of personal reassessment.

Yet far from being mentally hammered into the ground, many have expressed the view that there would be great value in follow-up sessions and the training group is hopeful that these can in fact be instituted.

While there is no shortage of nominations for the senior management courses, Don and Bob are keen to have the names of more senior staff who would like to go on them. Nominations can come through Chiefs or RAOs and from individuals who would like to take part.

The group will also welcome inquiries and suggestions from individuals or staff associations which could be considered for future training programs.

TRAINING OFFICERS

Don Gwynne

Bob Marshall

A group of participants at a recent senior management course take a five-minute break in the sun. Those on the course were Bob Edwards (Fisheries), Ian Dick (Chemical Physics), John Vavasseur (Building Research), Wal Read (Mech. Engineering), Dudley Scullin (HO), Jim McDonald (MRL), Peter Dawe (CILES), John Damm (Reader in Psychology, University of Queensland and Director of Studies), Jack Middlehurst (Food Research), Dave Henshaw (Textile Industry), Don Willis (Chemical Technology), Kath Skinner (Irrigation Research), Tony Culnane (RAO, Canberra), Don Gwynne, (Training Officer, HO), Dorothy Braxton (CCU), Bill Kerruish (Forestry), Brian Stacy (Animal Production), Peter Kelly (HO), Terry Healy (HO), Bruce Champ (Entomology).

Horticulture Research holds four workshops

Over the last 12 months the Division of Horticultural Research has organised four successful workshops of horticultural and biological interest.

The number is considered by the Division to be something of an achievement. Interest in them has also been heightened in that they were held at the Division's Merbein station near Mildura in one of the oldest buildings used by CSIRO, built around 1919.

The first meeting was staged by the Australian Plant Pathologists' Society and organised by Mr Max Sauer, O-i-C of the Merbein station.

It was attended by about 30 delegates from both Australian and New Zealand research stations and centred on discussions of new developments in plant nematology.

The second series saw the completion of two further three-day workshops, both sponsored by the Standing Committee on Agriculture.

The first of these, organised by Dr Paul Kriedemann of the Division, dealt with the regulation of photosynthesis in horticultural crops. This attracted 40 delegates from 19 institutions, including State government departments, CSIRO and universities.

The second seminar was arranged by Mr Ron Webber of the South Australian Department of Agriculture and focused on water relations of citrus and avocado orchards.

The fourth workshop was again sponsored by the Standing Committee on Agriculture and organised by Dr Peter May of the Division. This time the subject concerned the mechanical harvesting of grapes and was largely slanted towards the interests of industry.

Participants included CSIRO staff, users of mechanical harvesters, machine distributors and officers of State government departments, the Australian Wine Research Institute and Roseworthy College.

With each of the workshops the Division's aim was to stimulate discussion between interested parties on existing problems and new areas of research.

The Division's reputation for its hospitality was further enhanced with convivial gatherings when appreciation sessions of local horticultural products were part of the program.

Training for apprentice at school

A segment of the technical and trades staff development activities currently in progress is the short-term movement of apprentices between Divisions and with industry.

Recently, Brett Gogoll, a second year instrument maker apprentice with the Division of Atmospheric Physics, spent one month at Lucas Industries Apprentice School.

Brett received specialised training in lathe work, gear cutting and grinding. He also spent a couple of days working on a production line.

Colleagues say goodbye to retiring staff

CSIRO is experiencing a wave of farewells as a number of senior staff reach retiring age. Functions to honour them and express the Organization's appreciation of their work over many years are being held in Divisions and offices in almost every centre at some time—either in the weeks just past or in those to come.

The Grey Lady of Stowell, the famous ghost of CSIRO's Hobart Laboratory, has said her farewells to Dr Don Martin, the man who watched over her interests for nearly 30 years.

Last month Don retired from his position as Officer-in-Charge of the Tasmanian Regional Laboratory, a position he held from the time the laboratory was first established there in 1949.

During those years he was twice visited by the Grey Lady and had a personal arrangement with her whereby she made sure no vandals or burglars ever visited the site.

It was appropriate therefore that invitations to the guests at Don's farewell at the lab should have been issued in the name of its most distinguished resident.

Unfortunately it was not possible to have a manifestation organised for the occasion—the Grey Lady is now getting on in years and is not seen out of her tower quite so often as previously.

Don's career extends back many years to the time when as a graduate from Sydney University, he joined CSIR and went to work in Hobart under the late W.M. Carne as a plant physiologist.

The degrees of M.Sc. (Sydney) and D.Sc. (Tasmania) were conferred upon him on the basis of his work on fruit storage problems and eucalypt ecology.

Don established himself as a world leader in the field of research into the influence of mineral nutrition on the susceptibility of apples to bitter pit and other physiological disorders.

In addition to his more basic studies he maintained a close interest in practical aspects of the apple industry, such as cold-storage management, controlled-atmosphere storage and post-harvest fruit treatments.

In 1965 the Royal Horticultural Society conferred on him an Associateship of Honour—its highest award to non-residents of the United Kingdom—in recognition of his distinguished service to horticulture.

In his personal research he was attached to the Division of Plant Industry for an almost record period of 38 years. Then in 1971 he and his group transferred to the Division of Horticulture.

Under Don's direction CSIRO's Tasmanian Laboratory expanded from a small soil and apple growing reserach unit into a centre involved in almost all the State's agricultural and industrial development.

He approached the day-to-day problems of a regional laboratory with a combination of unselfish sympathy, practical wisdom and an unfailing sense of humour. These qualities contributed profoundly to the maintenance of a happy and stimulating research environment and earned him the affection and respect of the many workers who have been associated with 'Stowell' over the years.

Don has no plans to stop working. He is planning to go into amateur production of wine on his property on the Tasman Peninsula and says as yet there is too little known about how to make good wine in Tasmania and the commercial potential for it in the State.

At his farewell he was presented with a hand-tooled leather folder of anecdotes, photographs and testimonials from present and former colleagues. The folder had a motif of an apple and leaf, the apple showing signs of bitter pit.

He was also presented with a water colour painting of 'Stowell' by Max Angus of Hobart, a well known Tasmanian artist, who was specially commissioned by the staff for the assignment.

'Half-time boy'

Doug Graham is the latest member of the CSIR staff of the 1920s to retire. He began his long association with the Organization in the Division of Animal Nutrition as a junior assistant in 1928 (the papers referred to a 'half-time boy') and he retired as a senior technical officer last month.

For 48 years he was associated with the Adelaide laboratory as a staff member of five Divisions and worked with six Chiefs.

Doug's working life started in the Biochemistry Department of the University of Adelaide where the Division was born with Professor Brailsford Robertson as Chief. There he helped in the small animal colony and was always involved in experiments with sheep and laboratory animals.

He worked seven days a week for 36 of the 48 years and even in more recent times usually spent some time on the job at weekends.

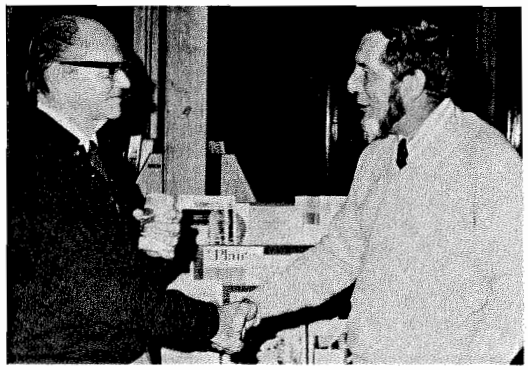
Doug Graham

He worked on the experiments concerned with cobalt deficiency and coast disease and saw the results of this work change the face of agriculture in much of South Australia.

Always one to keep occupied, Doug has enjoyed numerous activities outside CSIRO and now plans to travel and continue his interest in golf.

He is a foundation member of one of Adelaide's golf clubs and as a committee man was promised many jobs at the club when CSIRO had no more claim on his time.

Dr and Mrs Martin with the gifts which were presented to them at a staff function at 'Stowell' last month.



Len Leslie and Dr R.J. Millington, Chief of the Division of Land Use Research at the farewell to Len Leslie.

Ron, who was formerly the Chief of the Division of Physics, has officially retired, but will remain on at the lab. in the capacity of a Senior Research Fellow.

The other member who has left was Harold Martin, a member of the Stores and Transport Section.

Harold joined the Organization 18 years ago. In recent years he was responsible for the receipt and dispatch of items coming in for tests and callibration. The staff, knowing the enthusiasm he has for a game of bowls, presented him with a metric set and a case to keep them in.

In Land Use Research, Canberra, colleagues have farewelled photographer Len Leslie.

Before joining CSIRO Len was a schoolteacher with an interest in amateur photography. He decided to put his expertise to professional use and as a Divisional photographer he was involved in the work of some of the early surveys in northern Australia.

At a function to say goodbye to him and wish him well, Len was presented with some photographic equipment to help him maintain his interest during his retirement.

NML staff

The National Measurement Laboratory has had to say goodbye to two members of its staff in recent weeks, although in the case of one officer, Dr Ron Giovanelli, it was more a formality than a true leave-taking.

Refrigeration conference

The International Institute of Refrigeration is to hold a conference on food science, refrigeration and air conditioning in Melbourne in September. A number of CSIRO staff are involved in the event which will be held at the National Science Centre at Clunies Ross House in Melbourne.

The conference is being arranged by the Australian National Committee of the Institute in collaboration with local professional and technological societies and with the support of the Commonwealth and Victorian Governments.

The conference organiser is Mr Frank Hogg of CSIRO's Division of Mechanical Engineering.

Speakers at the various sessions will include distinguished leaders in food science and technology (including transport and storage) both from overseas and from Australia. A large number of them will be CSIRO staff.

SAFETY NOTES

Laboratory coats

The following is a warning from Dr T.A. Pressley, of the Division of Protein Chemistry, a leading expert on flammability of textiles:

'The traditional cotton laboratory coat has always been highly flammable. That serious accidents are few is a tribute to the quick reaction of staff who deal quickly with an incipient fire, frequently by slapping it out with the hand.

'Polyester/cotton blend coats are now common, and two cases of burned hands in one Division suggest that there is lack of general realisation of the way blends containing thermoplastic fibres fuse to a melt of high heat-capacity.

'Pushing a hand against the fire is certain to give at least second degree burns as the molten mass sticks to the flesh.

'In the more recent case, a cigarette lighter in a coat pocket was triggered into action when the owner leaned across a bench. The flame was extinguished by slapping, but at the expense of a painfully burned hand and thigh.

'People in high fire-risk areas, such as welders, should be supplied with coats or overalls made from fire-retardant textiles. Several wash-fast treatments for cotton are now commercially available.

J.W. Hallam
Safety Officer

Siroforum

How nice it would be in this Jubilee Year of CSIRO if the Chiefs of the two elderly Divisions in Canberra finally granted to their staffs the right to formalise the very generous 'informal flexitime' schemes they allegedly enjoy by recording their attendance on the fortnightly sheets that most of the rest of the Organization is using.

I suggest a joint proclamation to overcome the present difficulty which seems to be that Chief A cannot announce flexitime in his Division until Chief B announces flexitime in *his* Division and Chief B cannot announce flexitime in *his* Division until Chief A.....

Of course, such a *surprising* and *enterprising* departure from the hitherto unshakeable conservatism reigning in these twin sanctuaries of unsullied academic privilege and management prerogative should be accorded the recognition it would deserve. Perhaps a simultaneous reading from the original parchment by the two Divisional Secretaries dressed in the livery of the College of Medieval Heralds and preceded by a fanfare of Roman trumpets, on the stroke of midnight, at the Jubilee Ball would be appropriate?

Kevin Rattigan
Land Use Research
Canberra

'Coresearch'

'Coresearch' is produced by the Central Communication Unit for CSIRO staff. It is also circulated to some people outside the Organization who have a professional interest in CSIRO activities.

Members are invited to contribute or send suggestions for articles. The deadline for material is normally the first day of the month preceding publication.

Material and queries should be sent to the Editor (Dorothy Braxton), Box 225, Dickson, A.C.T. 2602, Tel. 48 4477.

Coresearch

A monthly publication for CSIRO staff

September 1976 208

CSIROTA takes lead in retirement planning

At what age should CSIRO staff begin to think about their plans for retirement? If they are like a lot of other people in the community they will leave it until the last few months before they actually get out of the game knowing that they either will or will not have a reasonable pension to look after their future needs.

Many, if they follow the trends of the community, will have thought as far as the day they turn 60 or 65 and let it go at that.

Some will have looked beyond that actual retiring date and planned a trip around Australia or overseas but relatively few will have thought of planning for perhaps 75, even 85.

Margaret Zorin, Secretary of the CSIRO Technical Association in the ACT is one person in CSIRO who happens to think there is a lot more to it than that. She believes it's a subject which many more people should be investigating much more widely than they already have.

Her own interest was whetted by her participation in CAGEO retirement planning activities, by knowing that a number of senior people in her association were reaching retirement age and by hearing them say they wished they knew more about what was available.

Last month the branch held the first of what may become an ongoing series of seminars on the subject in the conference room at Plant Industry on the Black Mountain site.

Invitations were extended to members of the staff over the age of 55 in Canberra.

About 50 attended, only about 10 per cent of whom were from the Technical Association. The rest represented the research staff, and clerical and administrative and other support staff as well as DAOs and personnel officers.

If future seminars are organised, Margaret hopes that the age would be lowered to include people from about 40 upwards and that staff would bring their spouses for as guest speakers pointed out, retirement plans were better if they were considered jointly by husband and wife if staff were married, and about that age.

Sceptical

There was little doubt about the success of the first venture. Some of the participants commented that they attended in a rather sceptical frame of mind, not convinced that it would open many new avenues of thought.

They left with a whole new range of ideas presented to them, some of which could also benefit them financially as well as physically and psychologically.

Mr Ross Walker from the ACT Council on the Ageing, for instance, spoke of the problems which arose when little or no planning had been given by people to their retirement.

'In some cases this can mean loss of self-esteem,' he said. 'On Friday someone can be in a position of considerable influence professionally and socially, in the community in which he lives.

'On Monday, when he has retired, he has lost that status because he no longer holds the position.'

This, he said, could have an emotional impact on a person not prepared for the change from his former role to something different in the community.

'There is also an increase in marital disturbances in the first year following retirement. Some wives even resent the intrusion of their husbands into their domains. We believe joint planning is important.'

Seminars to be held

The Training Group from Head Office is proposing to introduce a series of seminars on retirement planning in all CSIRO establishments across the country. It is hoped that the first of these will be under way before the end of the year. The aim will be to get staff to begin thinking about their retirement once they are in their forties and to include their spouses in their planning.

Mr Walker spoke about the development of new skills and interests which people could enjoy on their retirement, but said he believed these should be considered before retirement age and started perhaps from 40 onwards.

It should however, be remembered that what might still be physically possible at the age of 60 or 65 was not necessarily going to apply at 75 or 85 and that people should look beyond the first 10 years of retirement.

Health had to be considered and older people could become victims of boredom, loneliness and alcoholism, and other health problems associated with the age group.

It was also necessary to consider what would happen to one partner, how that person would be cared for in the event of the death of the other person.

One authority he knew of advised retired people to 'live dangerously.'

'It may be better to die on the 38th day of a 54 day around-the-world trip that has been a lifelong dream than to spend the rest of your life sitting dully in front of the idiot box,' he said.

Saying social stimulation was necessary if retirement was to be enjoyed, Mr Walker added: 'One's attitude to this time of life is more important than the financial aspect of it.'

Finance

Mr Jim Osborne, an investment guidance officer from the Bank of New South Wales agreed that money was not the 'be all' of retirement but if a person's finances were well organised, then at least there were fewer problems and less headaches.

If planning started around the age of 40 to 45 then people need not be apprehensive of their retirement.

Continued on page 4

Margaret Zorin

Tribute

The death has occurred of Mrs Richardson, widow of Mr A.E.V. Richardson, a member of the CSIR Executive Committee from 1926 to 1945 and Chief Executive Officer from 1945 to 1949. In paying a brief tribute to the memory of Mrs Richardson, the Chairman, Sir Robert Price, said that the names of Julius, Rivett and Richardson would long be remembered in the annals of CSIRO—and Australia's—history as the founding fathers of the Organization.

'Less well recognised but certainly of significance,' said Sir Robert, 'is the influence of the wives of these distinguished men and it is with sadness that my colleagues and I pay tribute to the passing of one of them.'

Researchers science strips launched

CSIRO science stories took a new turn last month when they began appearing in leading Sunday newspapers throughout the country as a science strip. They will be used by one paper in each State initially for 26 weeks.

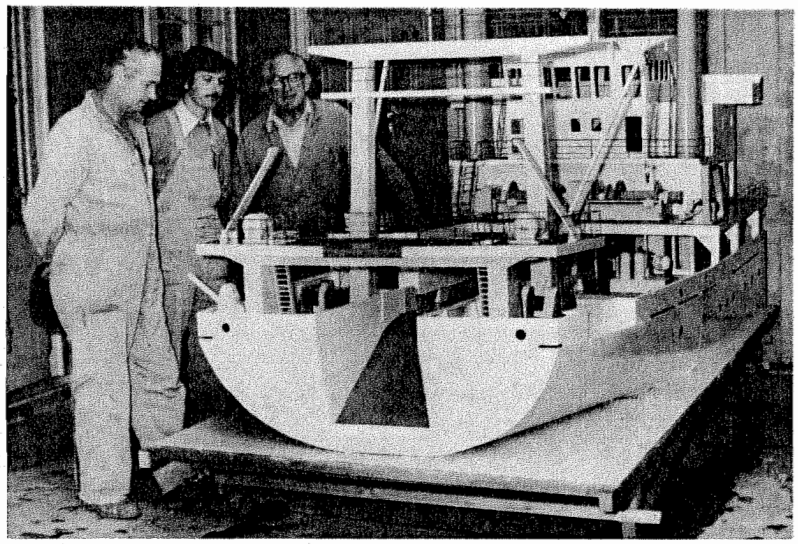
A total weekly circulation of 1,649,220 of the stories will be achieved.

Under the title of 'The Researchers', each episode will deal with an aspect of research being undertaken in CSIRO.

It is hoped that the strips will be collated and published in book form at the end of the exercise. This would then be used as an educational medium, and made available to school children.

The strips are the work of two members of the Central Communication Unit in Canberra, journalist, Graeme O'Neill and graphic designer, Brian Gosnell.

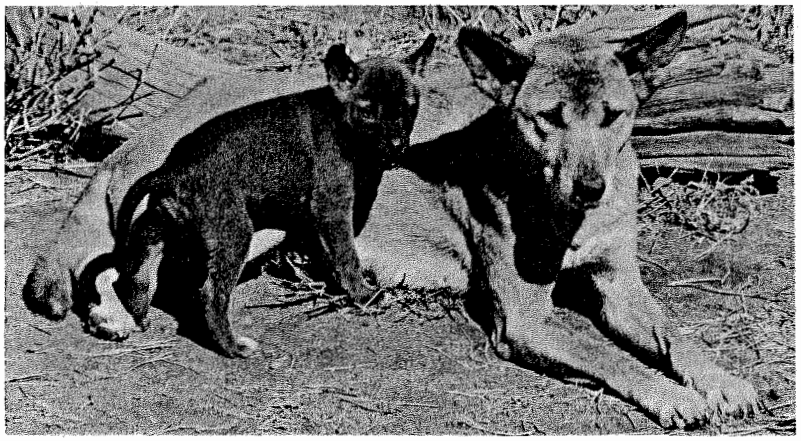
The newspapers running the series are: 'Sun Herald' (NSW), 'Sunday Press' (Vic), 'Sunday Mail' (SA), 'Sunday Times' (WA), 'Saturday Evening Mercury' (Tas), and 'Sunday Mail' (Qld).



A one-tenth scale model of the stern half of what is hoped will be the Division of Fisheries and Oceanography's new research vessel has been built by the Division's workshop, the carpentry being done by (left to right) senior laboratory craftsmen Arthur Lake, Alex Simpson and Jack Powell.

The vessel is to be built as a stern trawler so that it can serve both fisheries and oceanographic research in the deep ocean.

In the trade the model is called a 'rigging model', and as the name suggests, its primary purpose is to check the rigging design. It will also be used to test the layout of deck machinery and fittings, and lines of sight since it is important that winch drivers and others have a good view of the operations taking place on the fishing deck.



Protect? Control? Destroy?

Scientific study made on 'dingo problem'

Sometime during the next few years Australians who have vested interest in knowing how to handle 'the dingo problem' should be armed with much of the scientific background information they need to sort out the confused statements which have been made for the last 200 years.

The data will be made available to them as the result of a 10 year program of research into the biology and ecology of the dingo which has been undertaken by the Division of Wildlife Research.

The fieldwork for the project, begun in 1966, has just been completed. It now remains for the members of the group who have been involved in the work to finish writing up their papers on the subject.

This will then give a detailed analysis of all the known facts about the animals and their habits in widely differing environments, providing a scientific background for future management decisions.

The Division's project was by no means the first investigation to be made on the animal, but it was the first time the dingo had been studied in such depth.

As the leader of the team, Dr Alan Newsome, said: 'For years, people have been trying to control the dingo but all their efforts have been made without the benefit of a sound biological understanding of the animal.'

Even with all the resources the team had behind it the animal proved very difficult to investigate and there remain unanswered questions even now.

Dr Newsome is hopeful that at some later date he may have the opportunity to take the work a step further, but in the meantime he knows that he and the people who have worked with him have succeeded in amassing a great deal of knowledge about the animal.

However, he is still the first to admit that there remain some aspects about which even the team would still not make unequivocal statements.

Complex

Over the 10 years the team spent many thousands of hours observing and tracking and studying the animal. Often their research took them into remote areas, into harsh environments, and much of it had to be done at night.

Densities in various habitats were assessed and the animal's water needs were studied in detail for dingoes can survive in the hottest and driest parts of the country and effective control measures may depend on the animal's relationship to water.

Social behaviour studies were investigated, revealing many interesting facets which were not previously known.

Different control measures were also tried and assessed and the reports will contain information on this subject.

AMRC funds

The program began when the Australian Meat Research Committee made a grant to the Division to look at the biology and ecology of the dingo.

Dr Newsome was chosen to lead the work and, with a small group of technical staff, elected to begin the project at Alice Springs, an area he was already familiar with from previous studies on other animals.

After two years the AMRC backed the program again with a substantial injection of funds and more staff were employed.

When the techniques for studying the dingo were mastered, the team then shifted some of its resources to the Eastern Highlands building up as they did so as complete a picture as they could of the dingo and its habits.

They sampled wild populations and collected data on diet, breeding, longevity, parasites, diseases and the types of animal (purebreed, crossbreed, and domestic dog).

They looked at the habits of the dingoes, trapping and marking them and then tracing their movements, sometimes by observation, sometimes by telemetry.

It had not been possible to measure the economic effect of dingoes on the grazing industry since the killing incidence was low and sporadic, Dr Newsome said.

Diet

Diet studies have revealed that the dingo seems to prefer rabbits, rodents and lizards in Central Australia, and wallabies and wombats in the Eastern Highlands rather than sheep or cattle.

'But the dingo will eat the most common food on hand,' Dr Newsome said, 'and you can be sure that it will not go short of a feed. It will eat grasshoppers if necessary.'

The men found that even during a drought in Central Australia, the native game remained the preferred diet and the dingo had the ability to find rabbits and rodents when the men could not find any sign of those animals.

During a good season killings, by definition, meant a loss to the grazier but even they would argue about the effects of such killings in a drought when a cow whose calf had been killed stood a much better chance of survival than one which still tended her calf.

The study also revealed that about 75 per cent of animals caught in the Eastern Highlands and about 10 per cent of those taken in Central Australia were domestic dog crosses.

The team believes that the true dingo will eventually be replaced in the eastern part of Australia by crossbreed animals. This, the men say, may prove to be a worse problem to sheep and cattle—if it is not already the case.

Two members of the team, Ros Perry (on top of vehicle) and John Lemon tracking dingo movements.

CSIRO loses key finance officer

Forty-three years ago a young accounts clerk started work at CSIR's headquarters at 314 Albert Street in Melbourne. He was sat at desk and presented with the accounts book—a big, leather tome in which all accounts were entered in alphabetical order.

The book made a lasting impression on the young man. Any organisation, he reckoned, that operated a book of that size and quality must be important.

Last month, Ray Viney, the young accounts clerk who was to become CSIRO's Senior Assistant Secretary (Finance and Property) retired. In all those years his first impressions about the high standing his Organization had in the community never faltered and his colleagues would say he had a lot to do with keeping its reputation on that high plane.

Ray came onto the staff in July 1933 when the Council was battling with the economy. Forty-three years later it was still in the same situation but he had to admit there had been changes in the time.

'Our budget then was $240,000 and in 1975-76 it was $124 million plus the $19 million that the Department of Construction handled for us,' he said.

In Ray's formative years he took his instructions from people like Martin Grace and Harold Breen, two administrators who came from a tough school but who knew what made the Organization tick.

'Along with people like David Rivett, Clunies Ross and Bastow, the Chief Executive Officer, you were taught that the administrative staff was there to help the research staff get on with their work. If you failed to do that, then you failed in your job,' he said.

'We were taught to know what the rules of the book were—but we were also expected to know how to get round them and get the best out of the system.'

The early administrators made a lasting impression on Ray. 'They built up an esprit de corps which you couldn't help but feel was in the atmosphere,' he said. 'Stewart Bastow succeeded in doing this so well that even the cleaners used to feel they were doing a great job for Australia.'

'I remember Dr Bastow coming to me in 1962 when I took over the financial responsibilities from Martin Grace. He told me one of my most important tasks was to keep the Executive out of trouble with the Auditor General—but only just.'

Paying a tribute to him at one of the farewell functions held for him in Canberra, the Chairman, Sir Robert Price, said that Ray's working life had not been an easy one. While dedicated to research and the objectives of CSIR and CSIRO Ray had often had to be the man who had to say 'No.'

'It is a measure of the man's fairness, dedication and professionalism that he leaves the Organization well-respected and well-liked.'

'Ray is a skilled negotiator and had often represented us in Treasury debates at which our annual budget is formulated. His sense of timing and of what is possible in the context of the Treasury environment has been magnificent.'

Long service staff leave

The Dairy Research Laboratory at Highett has said goodbye to three members of its staff each of whom gave long years of service to CSIRO and the dairy industry.

They were Mr John Conochie (36 years), Mr Jack Lawrence (31) and Dr Joe Czulak (25).

Warm tributes to the three were made by colleagues and industry friends when a function was held at the lab last month.

Each made notable contributions to progress in the manufacture of dairy products.

Dr Czulak as leader of the cheese research group, successfully developed the mechanisation of the Cheddar cheese manufacturing process; Mr Conochie worked in many areas of dairy manufacturing research and in more recent years contributed greatly to developments in the packaging and transport of cheese and other products.

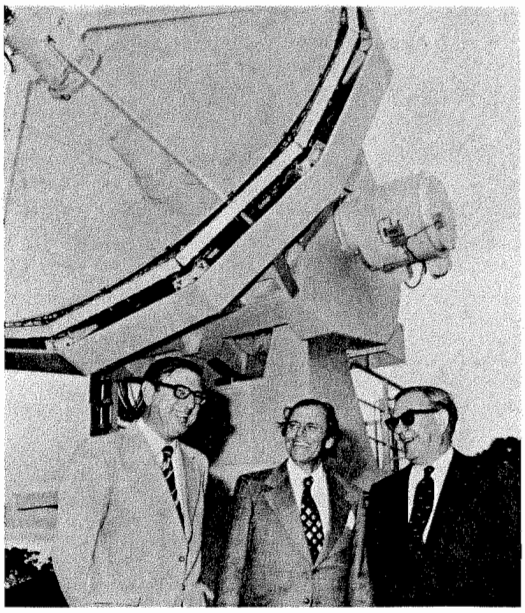
Mr Lawrence played an important role in the laboratory as a research chemist and contributed significantly to the development of analytical techniques and standard methods of analysis for dairy products.

Obituary

The death has occurred after a short illness of Wally Forrest of the Buildings Section in Melbourne.

Wally joined the Section in 1969 and quickly became a familiar figure at CSIRO establishments throughout Victoria, New South Wales and Queensland where he tackled building problems on projects with a tenacity that won the respect and admiration of his colleagues.

The esteem with which he was regarded was shown by the large number of his friends and colleagues who attended the memorial service. Messages of sympathy were sent from various sections of the Organization to his wife, Ann, and children, Bill, Margaret and Alison.



Dr Paul Wild (left) Chief of the Division of Radiophysics, Senator J.J. Webster (centre) and Sir Robert Price seem unconcerned about a 'Friday the 13th' inauguration of the new radio telescope.

Jubilee functions continue to attract the public

Three quarters of a million people filed through the turnstiles at the Royal National Show at Brisbane last month. How many of them actually visited CSIRO's exhibit is a statistic the Queensland Regional Administrative Officer, Mr David Thomas, doesn't really want to know. The impression he has of it all is that it was like getting on to a commuter train at peak hour in Tokyo.

The staff who were involved in the exercise put up the 'closed' sign after an endurance test lasting from 5-14 August with many hours of work going into it all beforehand.

But sore feet, blisters, headaches and all, Dave maintains it was worthwhile doing. Thousands took an interest in the exhibit which was a joint effort by the RAO, the Meat Research Laboratory at Cannon Hill, the Divisions of Soils, Entomology and Animal Health from the Longpocket Labs and Textile Industry from Geelong.

Colour was added with publications such as 'Rural Research', 'Ecos' and the jubilee book 'Surprise and Enterprise' being on display.

Even with all the competition from the hundreds of other exhibits, CSIRO attracted the attention of the ABC and Courier Mail and some good publicity resulted from their efforts.

The staff who were rostered to look after the exhibit faced a constant barrage of questions from the public who took a genuine interest in the research programs which were depicted.

The show marked the last of the planned jubilee activities in the Queensland area. These have now ranged from Brisbane north to Townsville and across the country as far north west as Narayen, about 470 km away from the capital. Add to this the activities in the Northern Territory and one way or another the people of northern Australia must now have a very much better insight into the Organization and its achievements than most other areas.

Minerals labs open for Sydney people

CSIRO's jubilee activities came to Sydney last month when the Minerals Research Laboratories at North Ryde played host to nearly 4000 visitors during a series of open days. Officially opened by the Minister for Science, Senator J.J. Webster, in the presence of CSIRO's chairman, Sir Robert Price, the open days gave the public an opportunity of seeing for itself one of Australia's main minerals research centres.

Dr Geoff Taylor and his open days committee began their preparations at the start of the year, but the weeks leading up to the event still involved Jenny North and Terry Cahalan in hectic last-minute arrangements, and the workshop, photographic and drawing office staff in much physical labour.

Over 50 exhibits in 10 buildings demonstrated the MRL's work on metal analysis, mining problems, energy and the environemnt.

The various service areas of the Laboratories also put on displays which attracted large crowds. For example, many children left carefully clutching the glass animals made by MRL's glassblower, Brian Carruthers.

Despite some cold and windy weather, Sydney people seemed keen to find out what happened in that place known as 'next to Channel 10' or 'opposite the cemetary gates'.

During the open days, the Minister for Science, Senator J.J. Webster, inaugurated the new flash pyrolosis unit (see separate story).

Minister inaugurates new facilities

The Minister for Science, Senator J.J. Webster, had a full program in Sydney when in one day last month he inaugurated a laboratory-scale flash pyrolisis reactor built by CSIRO's Mineral Research Laboratories at their North Ryde site and a new four-metre radio telescope at the Laboratory of the Division of Radiophysics in the Sydney suburb of Epping.

The telescope will allow scientists to search the depths of space for complex organic molecules.

'It will be primarily involved in the study of the way new stars form from the dense, cold clouds of molecules at distances of about 30,000 light years from earth,' the Minister said at the inaugural ceremony.

The radio telescope, which is designed to monitor the radio signals transmitted to earth by molecules which radiate on millimetre wavelengths, will open up a new field for Australian radio astronomers.

Until now, Australian radio telescopes have only been able to monitor the longer wavelength signals, thereby severely limiting the range of molecules which could be detected.

The radio telescope, which was built in West Germany, has been financed largely from funds paid to CSIRO by the National Aeronautics and Space Administration (NASA) in the United States for the use of the CSIRO's 64-metre radio telescope at Parkes in New South Wales during the Apollo moon missions.

MRL research

A process to extract oil from coal was showing promise in research testing by CSIRO, Senator Webster said when he inaugurated the flash pyrolysis reactor at MRL.

'Flash pyrolysis is a process which can virtually "cream off" the valuable oil-forming products from coal, leaving a low-sulphur char residue which can be burned for the production of gas or electricity.'

The process was likely to be much simpler than other alternatives, and so could cost less to develop.

Although bench-scale tests had shown that attractive yields of tar were possible and economic assessments on the small scale tests were favourable, there were still a number of problems to be overcome.

The reactor processed 20 kilograms of coal per hour, the Minister said.

It would be used to examine important engineering problems, to test the sensitivity of the process to scaling up for industry, and to produce sufficient tar for subsequent treatment.

'If it is successful, we hope that this work will encourage industry to participate in the development of a pilot plant, and that it will eventually lead to a full-scale process designed to satisfy a significant proportion of Australia's liquid fuel needs'.

Jubilee calendar

Open days

18 September, Animal Health at Melbourne
23-25 September, Animal Production at Armidale
7-9 October, Horticultural Research at Merbein
3-4 December, Animal Production at Prospect
Applied Geomechanics, date to be confirmed, at Adelaide

Special functions

6 October, Unveiling by Prime Minister, of commemorative plaque donated by industry, at Head Office, Canberra.
15-17 October, Mildura Show—Division of Horticultural Research
5 November, Human Nutrition Symposium, Adelaide

Studentships

Eleven people have been selected for CSIRO's 1976 Post doctoral Studentships.

Only one of the candidates currently works for the Organization—Mrs M.J. Sleigh of the Molecular and Cellular Biology Unit. A graduate of Macquarie University, she will work at Cold Spring Harbour Lab, New York, USA.

Fishexpo

The first National Fisheries Exposition will be held in Melbourne during 21-23 September. It will be a cooperative venture between CSIRO's Division of Fisheries and Oceanography, the Commonwealth Department of Agriculture and the Fisheries and Wildlife Division of the Victorian Ministry for Conservation.

Science film producer bows out

Stan Evans, one of the pioneers of science film-making in Australia, has retired from his position as Officer-in-Charge of the Film and Video Centre in Melbourne.

Last month colleagues in Melbourne and Canberra met at several functions to wish him a pleasant retirement. At one arranged by the Central Communication Unit, the Chairman, Sir Robert Price and members of the Executive paid their tributes to Stan.

'In the middle of next century when science has helped to build a better Australia, historians are going to look back through archives to see what record they can find of the milestones in science which helped Australia into the new millenium,' Sir Robert said.

'Those historians will owe a considerable debt to Stan, not only for the role he has played in preserving on film some of the great events in science, but also because he was one of the pioneers of the science film industry in Australia.'

Stan joined CSIR in 1937 as an assistant research officer with the Division of Animal Health. In 1940 he was seconded to the Western Australian Department of Agriculture and to the Scientific Liaison Bureau of the Department of War Organization of Industry from 1943 to 1945.

In 1945 Mr J.E. Cummins of Head Office assembled a group of three people to make a series of five films on the work of the Council for screening at the Commonwealth Scientific Conferences to be held in London the following year. Stan was one of the team.

That small beginning was the genesis of the Film and Video Centre as it stands today, a group which Stan has headed since its inception.

Of the films Stan has been responsible for 'The Birth of the Red Kangaroo' has been the most successful and 200 copies of it have been distributed around the world. This is closely followed by 'The Biological Control of Insects.'

At a Melbourne function Stan was presented with a model of an award made in antique bronze won for 'Biological Control' which he had always admired as an objet d'art.

The model was exquisitely glass-blown and sand-blasted, a collaborative effort by the Centre and a number of Divisions, all of whom expressed pleasure in being able to collectively create such a figurine.

Stan's career has been a hectic one. A man of single purpose, he decided at the age of 14 he wanted to work for CSIR. With that goal in mind he did his degree in chemistry, waited his opportunity to join the Council and was closely involved with Dr Hedley Marston in the work on copper deficiency in sheep in south west Australia.

He never regretted his decision, however, to move out of the field of research into film-making.

'In research you tend to become an authority in a narrow field,' he said. 'Film-making gives you a knowledge of science in a great many areas.'

And as Stan himself said, he liked variety in his life. 'In food, women and interests in society,' he said.

Stan also admits to having made a few bow waves during his career in the Organization. 'If I got a bumpy passage,' he said, 'it was my own fault, but at least let me thank CSIRO for giving me the pond to sail in.'

Stan plans to spend his time partly in Melbourne, partly down at the sea sailing and when the inclination takes him, he'll enjoy his newly found interest of painting.

Siroforum

Salary deductions

Each July a minor irritation is presented to members of CSIRO in the shape of a group certificate that does not give the figures needed for the tax return.

At least one of the staff associations has been trying for 10 years, without success, to have this corrected and, for example, separate the hospital and insurance payments, which belong to separate sections on the tax form. Insurance must be added to superannuation and a limit applies to their sum.

But it seems that this action has been resented. The system has struck back and union dues, not deducted from salary, are not listed on the new group certificate so that a taxpayer has no simple record that they have ever been paid.

We were misled by an improved salary slip last financial year, but it has only meant that the group certificate and salary slips no longer match.

If the necessary change to the computer program is too much for the Organization, we should give up our ineffectual efforts to write our own programs for salaries and buy the US Government program.

This not only lists fortnightly the salary, each deduction and any leave total but also gives a running total for the year that can be checked against the group certificate. Surely this is not too much information to give staff.

W.H. Steel
National Measurement Laboratory
Sydney

This letter was referred to the ADP Group for their comment. In his reply, the Manager, Mr Hank Thijssens said:

A data processing system is a careful balance between clerical procedures and computer program capabilities.

The development effort expanded on the CSIRO Salary System has been aimed at improving the overall system in general and reducing the clerical effort in particular, with emphasis on removing peaks in clerical effort needed due to external influences (taxation changes, national wage cases, new super scheme etc.).

Most of the advances in our system are transparent to most employees, except perhaps for the speed in which wage indexation decisions are handled, the early availability of group certificates or more pertinent details on your payslip.

When this improved payslip was introduced in July 1975 we were not able to store and control all details for each person in an economical way to enable the computer to print all relevant tax deductions on the group certificate, consistently correct for all staff.

Even the importation of the US Government System would not have helped. That would have had the same effect as mounting a jet engine in a farm tractor; perhaps it will fly but it will not do much useful work.

It was expected however that each payee would keep his payslips for future reference:

(a) to prove his group certificate
(b) to keep a record of his deductions
(c) as reference material in case there were some queries.

The pay system could have been able to store these details as of November 1975. However a part year is useless so other more pressing tasks were completed first.

Now that some of our earlier tasks have been completed we will be able to meet this request.

All relevant data as of Pay 1 is now stored and will be available to produce comprehensive group certificates in June 1977.

We are also awaiting delivery of a brand new payslip/envelope that will enable us to give more details on your pay advice as well as running totals, with greater protection of privacy.

A special paper produced in Japan is used for this but unfortunately the shipment has been delayed due to transport problems. We hope to introduce this in November.

In our salary system we have met the targets set for 1975/1976 and we are confident to meet our 1976/77 targets, one of which is to improve pay information details.

A plague on it ...

The Minister for Primary Industry, Mr Ian Sinclair, was asked to officiate at the unveiling ceremony at the Sydney laboratories of the Unit and the Bread Research Institute on the occasion of the opening of a new section of their building.

Unfortunately, a printer's gremlin got at the program and the Minister ended up unveiling a plague.

Science at work

Iddums diddums, Daddy tickle Phoebe's tum-tum again?

Ski Club popular with staff

The snow season has attracted many members of CSIRO's staff to the mountains this year. Apart from those who go to Thredbo, Perisher and the other well-known resorts nearby there has also been considerable activity at Mt Buller, Mt Hotham and in the Falls Creek region among staff who belong to the CSIR Ski Club. This club has catered for the recreational interests of staff members of CSIR and CSIRO since 1945 when it first started work on its lodge at Mt Buller.

Since then the lodge has been expanded and renovated to its present standard with accommodation now for 28 people.

It has also built a lodge at Falls Creek with facilities for 13 people and more recently purchased another at Mt Hotham which can accommodate 31 members and their guests.

Although the club is not actively seeking new members, membership is nevertheless open to all staff and inquiries are received not just from the Melbourne region where it has its headquarters, but also from Sydney and Adelaide.

Associate membership is usually achieved at an annual intake after applicants have served on two or more working parties when construction and maintenance duties are the order of the day. Associate members may be offered full membership after a period depending on their degree of association with club activities.

All club lodges are well equipped with electric light and gas or electric cooking facilities. Efficient drying rooms for clothing and equipment, oil or electric space heating and hot water are all available.

Bunk rooms each contain three or four beds, are well stocked with blankets and have ample storage areas. Each lodge is also well stocked with non-perishable goods.

The facilities are readily available to members and their guests through a booking system which has evolved over the years. Members have first priority during the peak skiing season but guests are rarely turned away as more than 70 beds are available.

During the summer months the lodges are in great demand for those who enjoy the alps at warm temperatures as well as under snow. The non-skiing months also see a series of social activities centre around Melbourne, including wine bottlings, dances and film evenings.

Officers of the club are elected annually with positions currently being held by Cliff Restarick (Chairman), Mac Dilley (Secretary), Russell Smith (Treasurer) and Oscar Luhn (Lodge manager).

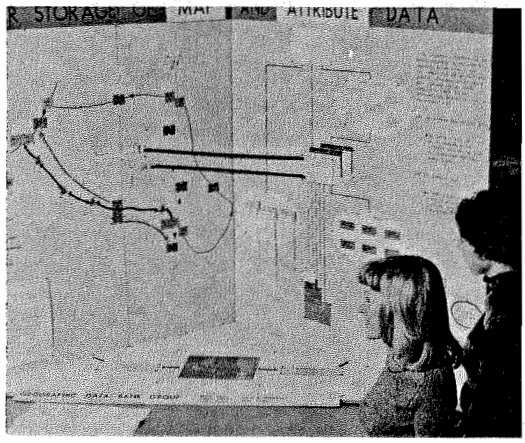
'Coresearch'

'Coresearch' is produced by the Central Communication Unit for CSIRO staff. It is also circulated to some people outside the Organization who have a professional interest in CSIRO activities.

Members are invited to contribute or send suggestions for articles. The deadline for material is normally the first day of the month preceding publication.

Material and queries should be sent to the Editor (Dorothy Braxton), Box 225, Dickson, A.C.T. 2602, Tel. 48 4477.

LUR innovation



Toni Paine and Sue-Ella McDowell at the date bank display.

Lamentable though it may be, it is a known fact that sections or groups of some Divisions do not always know what each other are doing.

With this in mind, and hopeful of alleviating the situation, the Division of Land Use Research recently held a meeting to which all members of staff were invited.

After a short introduction by the Chief, Dr Dick Millington, Group Leaders explained what was going on in their respective groups.

Margaret Mills explained the editorial, photographic and cartographic services of the Division and Jim Goodspeed the computer facilities available. Phil Rawlinson put in a word for the administration side.

After a barbecue lunch the staff were given an insight into the work of the Land Resources Laboratories as a whole, by the Chairman, Dr Gordon Hallsworth.

After the showing of a couple of films and a cup of tea, staff were able to look around a number of displays and demonstrations of different projects, completing a pleasant method of familiarisation with their colleagues' activities.

Retirement planning

Continued from page 1

Ways of investing money, the pitfalls which people could fall into, the problems of estates and wills were covered by Mr Osborne who implanted many new thoughts into the minds of participants.

Inviting staff to ask questions as they occurred to people during the course of his talk, Mr Osborne got no further with his prepared talk...he was kept busy from that point on giving advice, with most of the questions being raised being of general interest to almost all of those present.

Bank kitsets containing pamphlets on investment and many of the other areas of interest to the participants were useful as follow-up material and were distributed to those taking part.

Superannuation was the subject discussed by Mr Pat Hayes of the Commission for Superannuation. While most staff had been able to attend lectures on this matter within their own Divisions and Offices, it was a chance to get further advice on a range of aspects.

Later Margaret said that it was likely that another seminar would be held towards the end of the year and this time the association would probably work in with the Head Office Training Group.

Interest was also expressed by some of the participants in the formation of some type of CSIRO club in Canberra where former members could meet up with other retired colleagues with a common bond in the Organization and its work.

SAFETY NOTES

Chemical bombs

A full, or very nearly full, 500g bottle of calcium oxide which had been undisturbed on a laboratory shelf for several months, exploded with great force, projecting the contents and glass fragments around the laboratory. Fortunately no one was hurt.

It is probable that moisture had slowly seeped in around the plastic screw cap, and as calcium hydroxide is less dense than calcium oxide, a considerable pressure had built up in the container.

Make sure moisture sensitive materials are thoroughly sealed and for materials whose hydrated form is of a lower density, allow adequate space in the container for solid expansion.

'Safety' masks?

The half-mask respirators used in some laboratories provide far less protection against some organic vapours than commonly assumed.

The usual absorbent is activated carbon, which is not very effective for vapours such as methanol, methylamine and vinyl chloride.

J.W. Hallam
Safety Officer

Coresearch

A monthly publication for CSIRO staff

October 1976 209

NEAR-NORMAL OPERATIONS FOR DARWIN LABS

In one of the main streets of Darwin there is a model of a cyclone shelter. People are invited to inspect the real thing at a suburban site with a view to their homes being properly equipped should there be a 'next time.'

In hotel bedrooms there are pamphlets telling guests what to do if a cyclone alert is sounded and what the various stages of alerts mean.

All of which serve to remind visitors that while the city may be recovering from the devastating effects of Tracy, there is no reason to believe the whole thing could not happen again.

The town still has a bit of a lean on it. Telegraph poles can still be seen bent over from the force of the wind. Trees have not yet recovered their full foliage and in many places houses still look like outdoor stages with the superstructure above their stilts shorn off. Underneath, people have rebuilt their laundry and cooking facilities and make do with these plus a demountable or caravan.

Outwardly at least, though, Darwin with its population back to about the pre-cyclone figure of 45,000, is recovering. Work for CSIRO's staff is almost back to normal and they are picking up their old threads again both professionally and personally.

Most of the staff have reasonable accommodation. At the Division of Wildlife Research's lab there are still two families living in demountables on the grounds and some are still housed in caravans on their own properties while others have their homes at varying stages of repair.

The cyclone put work programs back by about six months. everyone at Wildlife has had to have time to make their homes liveable again.

'But even though most of the staff was located in the south, we did manage to work out the blueprint for our new program for Kapalga, our wildlife study area about 160 km out of town,' Dr Mike Ridpath, Officer-in-Charge of Darwin Laboratory, said.

Mike, along with his wife, Paule, was one of the few members of the staff who remained in Darwin throughout the aftermath of the cyclone. Looking back on it all now, he feels that perhaps those who were shifted out had a rougher time than those who remained.

'We knew first hand what was happening to our property and what was going on with the future of the place. Those who were away had the worry of not knowing, which is often worse.

'In making their decision whether to return, stay down south or even leave CSIRO and perhaps go overseas, they had to worry about the future of their children's education as well as all the other aspects of their lives that had to be considered.

'Those of us who were here knew the conditions and knew we could put up with things until they returned to normal.'

Wildlife is back to about three-quarters of its pre-cyclone strength but the quarter that has been lost cannot all be attributed to the cyclone. Government cutbacks have been responsible for some positions being handed back.

Between the two, the lab has been affected from the personnel aspect and this has not made things any easier.

'We're all managing as best we can and when this means sharing technical staff, then that's what we do,' Mike said. 'It's part of the spirit of the place.'

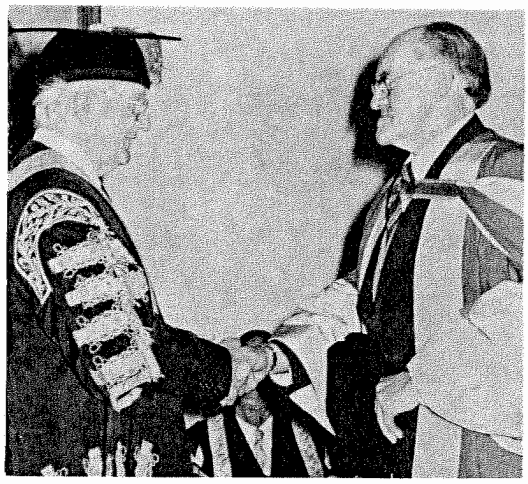
At the Division of Forest Research, located on a neighbouring property, the staff are in much the same position. Before the cyclone there were 22 people at the laboratory but with the losses which have occurred since, this number is now down to 17.

Some are living in caravans on the site, some of them, including their Officer-in-Charge, Dave Cameron, are still in caravans on their own properties awaiting repairs to their homes, and two have now moved into new homes.

An added strain for Forest Research people, however, was the uncertainty as to their future. At the time of the cyclone the staff were part of the Forest and Timber Bureau.

A few weeks later they learned the Bureau was to be trans-

Continued on page 4



The Chancellor of the University of Sydney, Sir Hermann Black, (left) presenting Mr F.J. Lehany with the honorary degree of Doctor of Science.

The degree of Doctor of Science (Honoris Causa) was conferred on Mr F.J. Lehany, Director of the National Measurement Laboratory, at a ceremony at the University of Sydney, last month.

The Citation, presented by the Vice-Chancellor, Professor B.R. Williams, referred to Mr Lehany's leadership as Chief of Division and later Director of the Laboratory, over more than a quarter of a century, and to the association of the Laboratory with the University.

Professor Williams also mentioned Mr Lehany's work as a member of the International Committee for Weights and Measures and its specialist committees.

The ceremony took place in the Senate Room, the only other degrees conferred being an Honorary Doctorate of Letters on the poet Judith Wright, and an Honorary Doctorate of Science on the eminent British organic Chemist Sir Derek Barton.

Changes at Katherine Research

Two of CSIRO's better known personalities in northern Australia, have taken on new responsibilities.

One, Mr L.J. (Flip) Phillips who has worked at the Katherine Research Station since 1948 and who has been its Officer-in-Charge since 1959, has relinquished his administrative duties to specialise in the field of seed production. This work will become a major activity at the station.

During his long career at Katherine Flip has made a considerable contribution to the development of technology for crop production in the region.

The conservation of genetic resources and multiplication of selected species prior to their release to the grazing industry is now a vital activity in Flip's Division of Tropical Crops and Pastures, and as Dr Mark Hutton, Chief of the Division says, 'We are fortunate to have a man with Mr Phillips' talents and experience to assume responsibility for this important work'.

The Division which has been active in pasture research since the 1930s has now assembled a unique collection of some 10,000 tropical and sub-tropical grasses and legumes. The collection is used to provide seed, information and advice to research workers in many parts of the tropical world.

Flip's position as Officer-in-Charge has become the responsibility of a Melbourne graduate, Dr Bill Winter. A comparative newcomer, Bill has nevertheless made a big impact on northern Australia since he joined the Division of Tropical Crops and Pastures in 1970.

For six years he and his technical officer, John Hodgkinson, worked on a research program in the northern part of Cape York Peninsula. The object was to obtain basic information required to develop improved tropical pastures for beef cattle production in areas of infertile heathland and eucalypt forest.

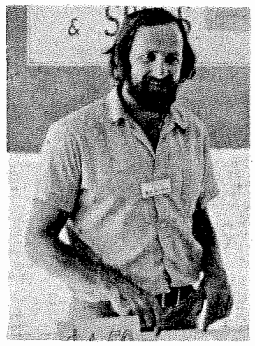
Bill's research involved soil and vegetation surveys, plant and animal nutrition studies, evaluation of pasture species, as well as pasture and animal production experiments. Altogether 30 experiments were undertaken, involving 14 scientists from five CSIRO Divisions.

The program, which received strong support from Comalco Industries, is now completed and many of the results have already been published in scientific journals.

The Comalco project provides a useful blue print of how to plan, conduct and bring to fruition a large agricultural research program in a limited period of time. Plenty of good scientific results have come out as well as the wealth of information needed for practical development of the area.

Those who know the Cape will realise that conducting research in an isolated area, where the climate will literally 'rot your boots', tested Bill and John's stamina and ingenuity to the full.

Bill, his wife Robin, and their two children, have now moved to pastures new in Katherine where he is responsible for pasture studies in the Katherine area and in the east Kimberlies as well as being Officer-in-Charge of the Katherine Research Station.



Bill Winter

Jubilee show

The Minister for Science, Senator J.J. Webster, was host at a function at Parliament House in Canberra last month when he invited his parliamentary colleagues both from the Senate and the House of Representatives to view the jubilee audio visual presentation 'CSIRO: The first 50 years.'

Guests were welcomed by the Minister. The show sparked off a series of questions from the politicians which were answered by Mr Victor Burgmann, a member of the Executive, and Mr L.G. Wilson, the Acting Executive Officer of CSIRO.

Kapalga–a fragile partnership between animals and plants

As the solitary jabiru flies, Kapalga is about 160 km east of Darwin, between the West and South Alligator Rivers and inland 50 km from the coastline that is washed by the Arafura Sea.

Officer-in-Charge Mike Ridpath (left) discusses the research program with RAO Dave Thomas, Brisbane, at the billabong near the main camp site.

According to the Aborigines, it should not be called Kapalga. That, they say, is a white man's corruption. The proper name is Gaparlgu.

Call it what you will, Kapalga is a 670km2 area of land where the plants and animals exist in a fragile—perhaps vital—partnership.

Few scientists have even tried to untangle the complex web of relationships which link all the different species of animals and vegetation that flourish in a tropical region and none have as yet succeeded in piecing all the threads together. However, the staff of the Division of Wildlife Research located in Darwin has begun a study aimed at probing at least the main inter-related components of the web, what might be called the 'ecosystem's skeleton.'

Such a study until now has remained an untackled challenge for the staff, not because they have been reluctant to undertake the work but simply because they have not been able to get a suitable area of land that could be locked up for at least 10 years, the minimum time they would need access to it.

Then about the time Cyclone Tracy struck they were given the rights to Kapalga under conditions which were acceptable to all concerned. The 10-year project is now under way.

The entire staff, except two, have transferred to the study, and within the next few months all will work there.

Most of them commute between Darwin and Kapalga, camping out there for several days at a time. While this can be a pleasant occupation in the 'dry' so long as no one has objections to mosquitoes and the odd nocturnal visitor, and the fact that they are frequently away from their families, it is no picnic in the 'wet' when roads are cut off and the available dry ground has to be shared by both people and animals.

However, the research would be left very incomplete if the investigations were limited to the dry season so rough conditions or not, the team will be out there working.

Study area

For anyone with an interest in natural history, Kapalga is an incredibly beautiful tract of country.

Much of the area is covered in an open forest of stringybark and woolly butt, their greys and greens being broken occasionally with the vivid yellow blossom of the wild kapok tree or the yellow and orange splashed broad leaf of a tree with the curious name of billy goat plum.

Here and there fan palms break the symmetry. In the breathless humidity of the 'wet' their fronds hang limp and still but when the storms hit they blow in a frenzy which makes them look like swirling windmills.

Pandanus too, stand like multi-limbed giraffes with their odd root system reaching down into the black soil of the plains.

The forest floor changes constantly. In places it is dense with small plants, cycads and juvenile eucalypts which confuse the issue by changing shape and colour as they grow to maturity.

In the open woodlands, spear-grass provides most of the cover and where the forest begins to fan out to the grass verges of the swamps, the dry sticky hyptis plant that is found in association with buffalo populations, takes over.

There are thousands of waterbirds in the wetlands of the area. The boundaries on the eastern and west sides of Kapalga are the two Alligator Rivers, and there are quiet billabongs and swamps which provide habitats for such species as corellas, herons, egrets, spoonbills and burdekin and whistle duck.

Occasionally the magnificent white breasted sea eagle and wedge-tailed eagle glide across the study area. Vehicles moving through the forest tracks easily disturb the magnificent red-tailed black cockatoo.

Shy woodswallows and weebills, the birds of the forest, are at the other end of the scale, each species interacting in some way with the vegetation.

Add to the birdlife the many species of animals and Kapalga becomes an exciting area for anyone with an interest in wildlife.

For the scientist however, it has an added dimension—that of the 'unknown'. The greatest challenge the staff may have to face is the imposition of self-discipline for it will be hard to resist the temptation to follow up the 'intriguing side-tracks of curiosity' as the Officer-in-Charge, Dr Mike Ridpath, put it.

Gathering plantlife from the swamps is not the most pleasant occupation for Bob Collins, especially when leeches are around.

In fact research will be limited to a study aimed at understanding the relationships between nine selected species of animals, and groups of species, and between them and the vegetation. And even there the nature of the data gathered has had to be strictly defined.

The data which becomes available from this work will be invaluable when local and government authorities and individuals need to know how to manage the wildlife and feral stock of the tropical wetlands.

Mick Gill (left), Nigel Gellar (centre) and Peter Panquee prepare a meal at the main camp site.

As the development of the Top End becomes more intensified, this information will become increasingly important. It will also provide useful facts, for example, for the management of some of the neighbouring Kakadu National Park.

Large animals

Of the nine species under scrutiny one of the biggest enigmas is the water buffalo, probably because it has a commercial potential and poses threats to other stock and to conservation, yet little is known of its ecology.

The animals are the descendants of a handful of domestic water buffalo which were introduced to the Top End in the 1820s from Timor, and which subsequently went feral. They have thrived unaided where cattle have largely failed.

In a territory where renewable resources for commercial enterprises do not come easily, the buffalo could assume greater importance than it currently does.

As Mike Ridpath explained, no one really knows how to keep the buffalo within given perimeters. 'It will walk through a fence and we don't know how to round them up for inspection or injection.'

Wherever the buffalo live not far away will be the cattle egret and the pied heron. They feed close to the mouths, hooves and tails and even on the animals' backs and as such are of potential significance as carriers of stock diseases depending on their movements.

A one-ton swamp-loving animal is capable of making its impact felt solidly on the environment. It destroys the forest trees by rubbing up against them, particularly the paperbarks which fringe the wetlands. This in turn destroys the habitat of the waterbirds.

The question is posed....should exploitation of the buffalo be continued and enlarged for commercial enterprises, should the animal be managed with greater controls, or should it be eradicated?

It is not in CSIRO's brief to determine policy but the research will make some of the facts known so that others can make their decisions on reliable knowledge.

Feral pigs

Kapalga contains a large number of feral pigs and some cats. The pigs have no potential as a source for human food because they carry large numbers of parasites and are a disease reservoir. They have proved to be resilient and high breeding, and their elimination would be an uphill task.

Some work has been done on them but much more data need to be gathered about their effect on the environment, their movements and their habitat preferences, before anyone can speak with authority on them.

The first moves in the establishment of national parks in the north have brought the effects of these feral animals into greater prominence for the damage they cause to native flora and fauna is another aspect not yet fully understood.

All through the north, the agile wallaby is an abundant grazer. Its movements, distribution, densities, effect on the environment and how these factors are inter-related with other species will be included in the study.

Another vegetarian is the magpie goose which lives in the area in its thousands. When a flock is disturbed it presents a magnificent picture as the birds swarm in a dense black cloud across the land, but if rice is ever grown in significant areas on the plains, an answer to this bird's impact will have to be found.

However, it is not only a species of scientific importance, but is also the main sporting bird of the Top End and a traditional food of Aborigines—a good example of how the whole study emphasises relationships.

The interaction between predator and prey is another complex issue, and one which the team hopes to study when staff are available.

Continued on page 3

Water buffalo share the wetlands with the water birds but the result can mean damaged trees where the one-ton animals rub against them.

Parliamentary Committee sees Belmont research

The Federal Rural Parliamentary Committee recently visited Central Queensland at the invitation of a local cattlemen's group to assess the effect of low beef prices on the general activities in the area.

Part of their stay was spent at Belmont, CSIRO's National Cattle Breeding Station near Rockhampton, where the emphasis was on cost savings that could be made by the beef industry by the adoption of practices indicated by research undertaken by the Tropical Cattle Research Centre of the Division of Animal Production.

The visitors were shown around the station and an outline of the research programs was given to them by the staff.

Mr B. Toon of the Queensland Department of Primary Industries who also addressed the group, said that in the early stages industry acceptance of findings from the work at Belmont on comparative trials involving British breed crosses and Brahman and Africander crosses had been slow.

'There has been a considerable change in attitude since then and much of it can be attributed to the high level of co-operation between officers of CSIRO and the Department of Primary Industries,' Mr Toon said.

Through their co-operative effort a highly effective team had been built up which had managed to bridge the gap between the researcher and the producer.

As the results of the early Belmont trial work became clear, the need arose to evaluate the data in different environments under commercial situations.

Through the CSIRO-DPI co-operation a commercial producer was induced to try the Belmont Red on an experimental basis.

'It was a bold move on his part at the time. He tells the story that when the first Belmont Red bulls arrived on his property he described them as looking like something that had been dreamed up by a mad scientist.

'I'd point out that bulls in working condition are just not accepted in the industry. Buyers, by tradition, have refused to even look at bulls that have not been fed with high priced grain.

'But that first producer now says his decision to give research results a try is reflected in the attitude of his bank manager.

'From a point 10 years ago when he had attractive looking cattle and a very unhealthy bank balance, he now has terrible looking breeders, but a very tidy bank balance.

'And he did that by improving fertility, reducing the age turn-off without any adverse effect on weight, and by cost savings through the virtual elimination of dipping for tick control,' Mr Toon said.

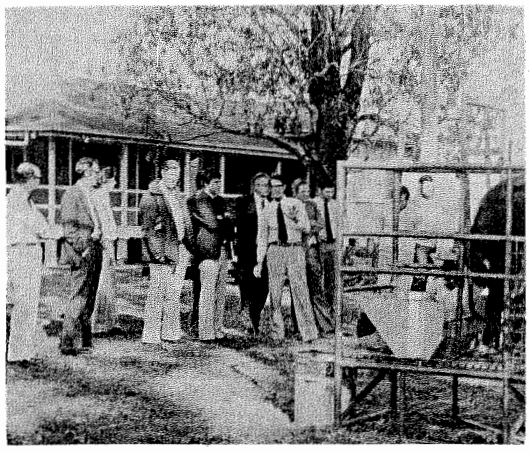
'From that one initial cooperator, the work has spread so that we now have research work from Belmont being evaluated at eight sites throughout Central Queensland.'

Because of the current industry slump, producers were now looking very closely at their management.

'They're very fortunate that research in the cattle industry has been as far-sighted as it has.

'Producers now have some ready-made programs that will help considerably in cutting costs and yet maintaining production.'

Following their tour of Belmont the next day the Committee inspected CSIRO's laboratory facilities at Rockhampton.



Members of the Federal Rural Parliamentary Committee got the inside story on the development of the Belmont Red when they visited CSIRO's National Cattle Breeding Station 'Belmont' near Rockhampton. Taking a look at one of the animals (from left) are: Mr R. Braithwaite (Committee), Mr R. Ellis (Division of Animal Production), Mr R. Moore (Head Office Staff Section), Mr G. Giles (Committee), Mr J. Porter (Committee), Mr L. Martin (Cattleman's Union), Mr A. Packham (Tropical Cattle Research Centre), Dr T.W. Scott (Chief, Division of Animal Production), Mr M. Sainsbury (Committee), Mr T. McVeigh (Committee), Dr G.W. Seifert (Tropical Cattle Research Centre).

Radiophysics has new newsletter

The Division of Radiophysics has started publication of a monthly newsletter. The editor is Noel Seddon, the Division's technical secretary.

Distribution is at present fairly limited but copies will go to staff at Epping, Culgoora and Parkes. People with a special interest in Divisional affairs could however, apply to the editor for copies.

The first issue contains news of the recent overseas visit of the Chief, Dr Paul Wild, who has been in Europe attending a meeting of the All Weather Operations Panel, the technical committee appointed to assess and eventually make a recommendation to the International Civil Aviation Organization on the merits of rival microwave landing systems for airports.

Advice for university

Some time ago CSIRO's Information Service gave the University of London Computer Service some programming assistance to enable them to develop their ULCC-INSPEC SDI Service.

Advice has been received from the University that the service is now in operation.

In their 'Users' Guide' the Centre has mentioned the contribution made by CSIRO saying that in the early 1970s the Organization developed software for searching internationally available magnetic tape literature collections and providing SDI services.

'From the outset', says the guide, 'CSIRO determined to provide the user with an easy search system backed up by extensive documentation so that the users would be able to write their own SDI profiles'.

The guide also gives a brief account of the provision of SDI services in CSIRO.

Long service

Mr Fred Box, who has been in charge of the Electronics Laboratory at the Division of Chemical Physics, has retired after 29 years' service with CSIRO.

Dr A.L.G. Rees, Chief of Division, paid tribute to Fred's considerable contribution to the research activities of the Division and in the commercial exploitation of instruments arising from this research.

Many guests from industry, other Divisions and personal friends at the Division paid tribute to him at a function held in the Division's canteen. He was presented with an electric hand router to ensure that he could continue working after his retirement—with his hobby of furniture making.

AWARD

Mr Ronould Johanson of the Division of Building Research has been awarded a D.App.Sc. by the University of Melbourne for research into wood preservation and the chemistry of wood preservatives.

Open days

By the time this edition is published the Division of Animal Health and the Pastoral Research Laboratory of the Division of Animal Production at Armidale will have held open days. Accounts of these will be carried later.

The fragile partnership

Continued from page 2

Dingoes and black shouldered kites, for instance, concentrate on the populations of *Rattus colleti*, a swamp rat which is also found in abundance at times. This animal is a potential pest in agriculture, especially if rice is established as a commercial crop, and a five year study of it is now nearing completion in a neighbouring area. The work will be useful as a basis for some of the Kapalga investigations.

Work procedures

During the first five years, the staff will define the various habitats by aerial mapping and ground checks. Distributions, abundance and movements of the key species of animals are being monitored by aerial and ground counts, trapping and marking.

Simultaneously a botanist is surveying the vegetation so that the flora and the animals' effect on it can be documented.

Productivity of vegetation and animal populations will be measured as well as their interaction and the diet of key animals will be investigated.

In the second five-year period the species will be 'manipulated'. Some will be removed and the effects on the vegetation and on other animals will be studied. This will provide a much greater understanding of what would happen, particularly for management purposes, for instance, if any animal was eradicated.

It will take 10 years, perhaps longer, to untangle this tightly woven mesh of inter-relationships but what will happen to Kapalga when the work is complete?

The staff will have come to know the area intimately but there will only be a comparatively few outsiders who will have been allowed access to it.

Only a few will have been able to watch a herd of buffalo plough across a swamp to the green grass beyond, leaving their calves in the hands of a 'nursemaid' near the sanctuary of the forest.

Only a few will have watched the graceful egrets and herons in flight or have seen the solitary jabiru on some isolated billabong.

The neighbouring Kakadu National Park will not have a substantial wetlands area and Mike makes the suggestion that perhaps in time Kapalga, or at least part of it, could become a wildlife reserve of its own.

Metric news available

The Metric Control Board (MCB) has issued its fifth Annual Report (1974-75) in which it indicates that on reaching the half way mark of the anticipated 10 year implementation period, about 70 per cent of the major conversion programs have been completed.

The MCB operates through a system of advisory and sector committees, working parties and panels and CSIRO is directly represented on some of these.

In addition, metric liaison Officers at all Divisions and Head Office are responsible for bringing relevant information disseminated by the MCB to the attention of appropriate personnel.

Relevant publications have been obtained and placed in Divisional libraries or Central Library, Melbourne, in the case of 'restricted number' publications such as the annual reports.

The MCB Newsletter, published bi-monthly, is the initial source of most general information. The November-December 1975 edition contains a synopsis of the Fifth Annual Report.

Students visit CILES

Seven English-language students from China who are studying at the Canberra College of Advanced Education recently visited Melbourne and spent some time at the Film and Video Centre, with CILES, and at the Printing Unit.

The students were in Melbourne as the guests of the Committee for Australia-China Relations and during their visit to CSIRO were accompanied by the Vice-President of the Committee, Miss Myra Roper.

Ralph Judd of the Printing Unit photographed the group (from left to right): Mr Irving Chin (Central Library), Miss Hsu Wen-wen, Mr Wang Ching-tang, Miss Li Hsin-hua, Mr Wang Ching-wen, Mr Peter Dawe, Miss Judith Stump (Central Library), Mr Clyde Garrow, Miss Huang Ching, Mr Kung Chin-pao and Mr Wang Hsiao-ping.

Siroforum

For the past 50 golden years, drivers of CSIRO vehicles have variously been mistaken for police, PMG linesmen, dog catchers, tax investigators and the Leyland brothers.

Other CSIRO staff have been threatened, regarded with suspicion, shooed off properties and suffered other ignominies, all because they and their vehicles lacked a ready form of identification.

Perhaps it is time, in our jubilee year, to rectify a deficiency of 50 years, and adopt a logo or symbol with which CSIRO can readily be identified.

I am aware the idea is nothing new, and that others have tried, but the idea seems to have failed previously because there were too many people with ideas about what the logo should NOT look like, and too few with ideas about what it SHOULD look like.

If, in the interests of posterity, people can repress their own personal whims on the subject and appreciate that it is the fact and not the form of the logo which is important, we might get somewhere.

I'm no artist, but I'm quite willing to defend my effort right.

It's reasonably simple, recognisable because of the CSIRO lettering, and for those who prefer subtlety, it has a symbolic message.

While it is designed to be distinctive in black and white, a coloured version would show the top triangle to be green, symbolising the photosynthetic organisms at the base of all food webs, the brown triangle at lower left symbolises the soil, and the blue at lower right the water essential to life processes. They are connected by a colourless (white) triangle, the atmosphere, and they are all inextricably interwoven, for obvious reasons.

They also symbolise the fields in which all of CSIRO's research Divisions are working, directly or indirectly.

It would be impossible to summarise the research of all these Divisions in any other way, but if the map of Australia in the centre were removed, individual Divisions could place a small symbol of their own in the centre—a fish for Fisheries and Oceanography, a tree for Forest Research, a kangaroo for Wildlife Research etc.

Doubtless there are other people with thoughts and ideas. Perhaps 'Coresearch' should devote a little space to showing them.

Graeme O'Neill
Head Office

'Coresearch' has published ideas for logos whenever they have been received. Any member of the staff, former member or interested friend is welcome to submit ideas for consideration for publication and be passed on to the appropriate people.

Just out of interest below is the logo which has been adopted by the Pastoral Research Laboratory of the Division of Animal Production at Armidale for their jubilee purposes. The artwork was done by graphic designer, John Wedlick, of the Central Communication Unit.

RAO's meet in Canbera

CSIRO's Regional Administrative Officers have held their first meeting for 1976 in Canberra, an occasion when matters associated with the day-to-day management of the Organization came under discussion.

In the national capital to meet with Ken Prowse, RAO of that region, were Dave Thomas, Brisbane, Trevor Clarke, Sydney, Alan Patterson, Melbourne, and the newcomer to the group this year, Jack Brophy, who now heads the mini-Regional Office set up in January in Western Australia.

Regions of responsibility for the RAOs are based on State boundaries. The RAO Brisbane serves Queensland, Katherine Research Station in the Northern Territory, Kimberley Research Station in Western Australia and the overseas establishments in Papua New Guinea and Indonesia.

The Canberra office looks after the interests of staff in the ACT, in the Northern Territory with the exception of the Katherine Station, and establishments in London, Washington, Tokyo and Moscow, in South America, France and South Africa.

The Sydney office takes in the whole of New South Wales while the Melbourne one is responsible for the remaining States.

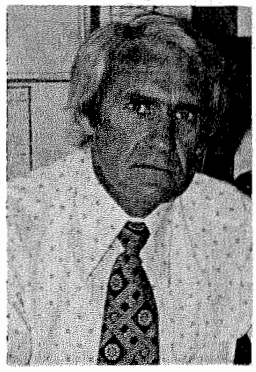
The three-day meeting involved the men in discussions with the Acting Secretary (Administration), Head Office staff and Finance Sections as well as the ADP Group, with a whole range of matters to be considered.

It is not always known that the Executive has delegated about 100 of their formal powers to the RAOs.

This gives them control of the region's bank accounts, the receipt and payment of moneys, the appointment of staff in their areas to perform specific tasks for management accountability, the administration of the Terms and Conditions of Employment, and the responsibility for administrative actions under acts covering, for example, superannuation, compensation, furlough and maternity leave as well as various industrial awards.

The RAOs manage in each region minor new works, furniture and fittings programs and repairs and maintenance under the control of the Department of Construction.

With such a range of responsibilities and powers the RAOs are virtually the 'watchdogs' on the receipt and expenditure of CSIRO moneys and other matters associated with the daily running of the Organization.



Jack Brophy

At the end of their Canberra meeting an informal function was arranged at the Canberra Club for them to meet with about 80 members of the staff in the ACT. This was attended by representatives of Staff Associations, the various Canberra Divisions, Head Office personnel and two members of the Executive, Dr Hill Worner and Dr Alan Pierce.

Jubilee calendar

Open days

7-9 October, Horticultural Research at Merbein
3-4 December, Animal Production at Prospect
Applied Geomechanics, date to be confirmed, at Adelaide

Special functions

6 October, Unveiling by Prime Minister, of commemorative plaque donated by industry, at Head Office, Canberra.
15-17 October, Mildura Show—Division of Horticultural Research
29 October, Irrigation Research at Griffith, function for staff and former staff.
5 November, Human Nutrition Symposium, Adelaide

SAFETY NOTES

Too hot

An unusual incident involving a motor vehicle resulted in a loss of $6000.

The vehicle was a station sedan and was returning from an interstate visit. It was heavily loaded, and the driver was unaware for some time that a rear tyre was flat. On pulling up, he noticed the tyre was smoking. Suddenly it burst into flame.

Against such a fire, the small BCF fire extinguisher was ineffective and only part of the load, including two cylinder of compressed gas, could be unloaded before the vehicle was completely destroyed by fire.

Little attention is paid to the manufacturer's load specification so it is common practice to overload this type of vehicle.

Flat rear tyres on heavily loaded vehicles are not easy to detect from vehicle behaviour and the consequences, as above, can be disastrous.

J.W. Hallam
Safety Officer

Darwin lab

Continued from page 1

ferred to CSIRO, an upheaval which not unnaturally caused them to have many doubts about their careers and personal lives. For some there was anxiety as to how long they would remain in Darwin, or even if their research in that area would be continued.

'In the finish we just decided to get stuck into the task of cleaning the place up and forget what was going on in Canberra,' Dave said.

Equipment had to be salvaged, minor repairs had to be made to the laboratory to prevent further damage by rain and the remains of the glasshouses, which had been wrecked, had to be cleaned up.

'We decided to maintain our research on Melville Island, about 40 miles from Darwin, which had been damaged by Cyclone Thelma a month before Tracy, and to continue with our new experiments involving the planting of 6000 plants in each of two localities.'

Like their Wildlife neighbours, most of the staff have taken extended leave to repair their homes.

'That coupled with the reduced number of technical and professional staff and a few doubts still about our future here, is making life a little difficult and some programs have not yet been restarted,' Dave said, 'but you could say we're battling on.'

Entomologist retires

Dr K.H.L. Key, the man who was instrumental in founding the Australian National Insect Collection, has retired from CSIRO after more than 40 years with the Division of Entomology.

In his early work with the Division, Dr Key made notable contributions towards unravelling the causes of outbreaks of the Australian plague locust and in delimiting outbreak areas.

He also showed that this pest exhibited the 'phase' phenomenon, which means that, as in the classical locusts of the Old World, specimens developing in swarms differ in morphology, physiology and behaviour from those developing in sparse populations.

Dr Key later turned to taxonomy and as the first Curator of the Australian National Insect Collection played an important role in its rapid growth in size and status.

His taxonomic studies clarified the status of all the economically important locusts and grasshoppers in Australia. Dr Key's work on the peculiar subfamily Morabinae, in which detailed chromosome studies were also made in collaboration with Professor M.J.D. White, will rank as a classic. His studies on the remainder of the Australian fauna of Orthoptera and related orders leave an extensive orderly and well-documented collection from which practically any known species may be identified.

Dr Key served for some years on the International Commission of Zoological Nomenclature, which sets world standards in animal taxonomy. He has also been a Fellow of the Australian Academy of Science since 1959.

Textile Physics Chief appointed

Mr Robert Haly has been appointed Chief of the Division of Textile Physics. He has been acting in this capacity since the former Chief, Mr John Downes, took up his post as Counsellor (Scientific) at the Australian High Commission in Moscow.

Mr Haly joined CSIRO's former Wool Textile Research Laboratory in 1951 as a technical officer and became a research officer six years later. He now leads one of the three Divisions which make up CSIRO's Wool Research Laboratories.

Robert Haly

'Coresearch'

'Coresearch' is produced by the Central Communication Unit for CSIRO staff. It is also circulated to some people outside the Organization who have a professional interest in CSIRO activities.

Members are invited to contribute or send suggestions for articles. The deadline for material is normally the first day of the month preceding publication.

Material and queries should be sent to the Editor (Dorothy Braxton), Box 225, Dickson, A.C.T. 2602, Tel. 48 4477.

Coresearch

A monthly publication for CSIRO staff JUBILEE ISSUE

November 1976 210

During this jubilee year much has been said of the achievements of CSIRO over the last 50 years. Certainly our record of achievement is one of which every member of CSIRO, indeed every Australian, can be proud. A fact which is not widely appreciated is that the Science and Industry Research Act states that: 'the Organization shall consist of the members of the Executive, and of the officers, of the Organization'. Thus, when we talk of the achievements of the Organization, we are in fact talking of the achievements of all those who work, or have worked, for CSIRO.

Just as the success of an army depends not only on the capabilities of the officers and men who do the fighting, but also on the capabilities of all those who are responsible for ensuring that the troops are kept adequately supplied at all times, so too in an organisation like CSIRO, the success of its scientists depends on the skill and dedication of the various technical, administrative, trades and other staff who provide essential support services.

As long as CSIRO can attract staff at all levels of the calibre of those who have served the Organization so well in the past, it will continue as a research organisation which compares more than favourably with any other in the world today. With an organisation built of such people, we can be assured that our record of achievement will continue undiminished and will be an inspiration for still further successes from which all Australians will benefit.

J. R. Price

JUBILEE PLAQUE UNVEILED BY PRIME MINISTER

'CSIRO is one of the most comprehensive research organisations in the world,' the Prime Minister, Mr Malcolm Fraser, said when he unveiled the commemorative plaque at Head Office last month.

'Any discussion of Australian science—either of its research or its organisational arrangements—must start with the special place of CSIRO.'

'The distinctive type and style of CSIRO's management structure has enabled it to identify objectives and carry out scientific research in those fields which have contributed very greatly to Australia's development', he said.

'The Executive, CSIRO scientists, technicians and administrators are to be congratulated on a job exceedingly well done.'

The Organization's research in fundamental and applied science had enabled Australia to increase its knowledge of the physical and biological environment in which the people lived and on which they depended.

'The Organization has developed new technologies through the practical adaptation of scientific principles to every day problems.'

As people saw CSIRO today—an Organization which had earned a high reputation within Australia and overseas—they should remember those who led it to its present maturity in science, and to the recognition accorded it internationally and by the Australian industry groups it served.

Mr Fraser listed some of the notable successes of recent years including the economically profitable innovations in wool production and the processing of textiles, the successes in the field of radiophysics leading to Interscan, and research which led to the country's agricultural advancement.

'A recent step forward of great significance to our northern tropical areas has been made through research into tropical pasture legumes,' he said.

'These legumes have enabled dramatic increased stocking levels in the less developed areas of our extensive northern pastoral zone. And all we're waiting for is much better cattle prices to get into a bit more of it.'

Mr Fraser also spoke of the development of atomic absorption spectroscopy which, he said, had been hailed as one of the century's most significant advances in analytical chemistry.'

Saying that the Australian economy was undergoing continual structural change and that this placed a responsibility on organisations like CSIRO to ensure that their contribution was maximized, Mr Fraser outlined the reasons for setting up the Review Committee which had been announced the previous day in Parliament.

He also touched on the role of ASTEC which would advise the Government on major policy issues concerning the application of science and technology to national needs and objectives.

'Australia will need in the future to increase its capabilities in areas of skill, innovation and design.

'The potential for contribution by the Australian scientific community to the development of this capacity is high.

'There should be interaction and communication between the scientist and industry enabling the scientist on the one hand to recognise the contribution his knowledge can make to industry, and for industry to recognise the contribution the scientist can make.'

The plaque, he said, symbolised the spirit of cooperation and communication between CSIRO and the many fields of industry, both primary and secondary, with which it was related.

It was also a symbol of a partnership which he was sure everyone would wish to see extended and strengthened in the years ahead.

1. Mr D.R. Zeidler and Mr E.P.S. Roberts spoke on behalf of industry at the ceremony.
2. Candid camera during the formal proceedings.
3. The Chairman, Sir Robert Price, enjoys one of the lighthearted remarks of the Prime Minister, Mr Malcolm Fraser.
4. Mr Ken Prowse, RAO, Canberra (far left) and Professor R. Street, ANU, talk to Dr J.A.L. Matheson, ASTEC, and Dr R.J. Millington, Land Use Research, Research.

Photographs by AIS and John Wedlick

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Industry expresses its gratitude to CSIRO

The Prime Minister, Mr Malcolm Fraser, last month unveiled a plaque at Head Office in Canberra to commemorate CSIRO's golden jubilee.

The plaque was presented to the Organization by Australia's primary and secondary industries in recognition of its 50 years of scientific service to the nation.

The etched brass plaque is hung on the wall of the foyer of Head Office. It was designed by one of the country's leading design consultants, Gordon Andrew, of Sydney, who also designed Australia's decimal currency notes. The design symbolises aspects of CSIRO's research (see front cover).

The wording on it reads:

CSIR-CSIRO 1926-1976
To commemorate the Jubilee of CSIRO
Australia's primary and secondary industries
presented this plaque which was unveiled by
the Rt. Hon. Malcolm Fraser, M.P.
Prime Minister of Australia

6th October, 1976

The unveiling ceremony took place at a function when industry entertained about 200 guests. Those present represented State and Federal Governments, Government departments, primary and secondary industries and the scientific community.

A representative group of CSIRO staff was also present and some of the Organization's former staff came back to 'work' for the occasion. Among them was the first Chief of the Division of Economic Botany, (later Plant Industry) 91-year-old Dr B.T. Dickson of Sydney.

Head Office function hosted by industry leaders

The function to unveil the jubilee commemorative plaque reflected the close liaison between CSIRO and industry—a very proper relationship since the Act under which the Organization operated particularly placed such a responsibility on CSIRO, the Chairman, Sir Robert Price, said when welcoming guests to Head Office.

'On this occasion the two sectors—primary and secondary industry—have come together to recognise the contribution our predecessors in CSIR and CSIRO have made.'

The importance of the links with industry was self evident and the Organization recognised that it had to work continually to strengthen those ties even further.

Sir Robert expressed CSIRO's pleasure in having the Prime Minister, Mr Fraser, present at the ceremony.

He welcomed two special representatives of those industries who were the hosts for the function, the President of the Woolgrowers' and Graziers' Council, Mr E.P.S. Roberts, and the Chairman and Managing Director of ICI Australia Limited, Mr D.R. Zeidler. Both of them, Sir Robert said, had had a long association with the Organization.

Mr Roberts had been a member of CSIRO's Executive for 13 years and Mr Zeidler had been a member of the Division of Industrial Chemistry for 10 years before moving into industry.

Sir Robert also warmly welcomed back to Head Office Dr B.T. Dickson, of Sydney, the first Chief of the first Division of CSIR—the Division of Economic Botany, now the Division of Plant Industry.

The Minister for Science, Senator J.J. Webster, said that CSIRO had achieved great elevation in the public mind and people of diverse interests acclaimed it.

He was delighted that so many representatives of industry could be present and expressed particular pleasure that the Prime Minister had been able to come.

After paying tribute to the valuable contributions which

Continued on page 11

PM has dung if CSIRO has right beetles

Dung beetles released on 'Nareen', the property owned by the Prime Minister, Mr Malcolm Fraser, in Victoria, did not, it would seem, prosper.

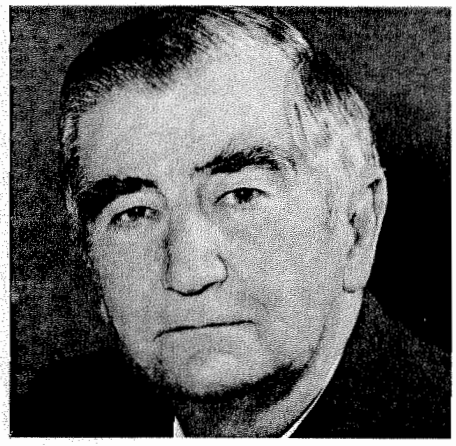
Following comments by Mr Roberts about the dung beetle program, Mr Fraser said that 'here is a certain challenge because we have been desperately trying to get beetles that will live and prosper in a cold and wet climate.

'Every attempt we have made has so far failed. We don't know whether it is the quality of the beetles or the quality of the dung. But whenever CSIRO has more beetles to offer us, we have more dung for them on the farm.'

(Later John Feehan, a technical officer with the Dung Beetle Unit who was present at the function, said that dung beetles had now been successfully established only 90 km from 'Nareen' and with a bit of luck this particular species might find 'Nareen' to their liking as well.)

Professor A.J. Birch

Mr R.T. Madigan



Sir Cecil Looker

Review Committee established to undertake study of CSIRO

An independent committee of inquiry has been set up by the Government to examine the objectives, structure and programs of CSIRO.

The last major review of the Organization was held almost 30 years ago, in 1948-49.

The Review Committee will comprise Professor A.J. Birch (Chairman), Sir Cecil Looker and Mr R.T. Madigan.

Announcing the review in Parliament last month, the Prime Minister, Mr Malcolm Fraser, said that over the last 50 years CSIRO had earned a high reputation within Australia and overseas. This had been achieved by conducting research programs which had been predominantly of high quality and sound practicality.

'During these years the Executive and staff of CSIRO have made significant contributions to fundamental and applied science and have sought to link the two together,' Mr Fraser told the House.

Since the last review, science had become increasingly diversified and the Government had come to support it and technology in a multiplicity of ways.

'Inevitably the role of the Organization has changed. It is appropriate at this time to engage in a rethinking of the objectives of CSIRO for the future, to conduct an independent examination of the ways in which the Organization's vigour, its ethos, its capacity to deal with the challenge of the future, can be sustained.'

Outlining the functions of the Committee, Mr Fraser said it would examine and report and make recommendations on:

1. the objectives of the Organization and the relevance to the present and future requirements of Australia of its functions as set out in the Science and Industry Research Act
2. the extent to which the current research program objectives and the emphasis given them accord with the objectives recommended for the Organization
3. existing arrangements and procedures for meeting recommended objectives and discharging recommended functions with particular emphasis on:
   - the size and diversity of the Organization
   - its organizational and management structure
   - policies for the employment of staff and the role of consultative and advisory machinery
   - the relationship of the Organization with Government agencies, industry, tertiary institutions, research institutes and the users of research results
   - the methods for selecting, reviewing, reporting on and reordering research programs including the effect of the differing sources of funds
   - the assessment of results achieved in the light of the resources employed
   - the processes involved in the implementation of research results and the role of the Organization in Australia's international scientific relationships
   - and finally, the extent to which and the means by which programs of the Organization could attract revenue both to support the conduct of on-going and intended research and also in return for results achieved in research.

Review Committee members:

The Chairman of the Review Committee is Professor Arthur Birch, Foundation Dean of the Research School of Chemistry at the Australian National University where he is also Professor of Organic Chemistry.

Professor Birch's research interests have included work on the synthesis of sex hormones which led to the commercial manufacture of the first contraceptive pill. A procedure he developed in 1948, known as the Birch Reduction, is still used in the manufacture of 'the pill' and is now also used widely in other areas of organic chemistry.

His work on the structures of naturally occurring chemicals has helped to explain the origin of some 3000 natural compounds and revealed for the first time the origin of pigments in flowers. More recently his research has centred on the use of metallic compounds in organic chemistry.

For his contributions to chemistry and to science, Professor Birch has received many awards, and is the only Australian resident to have been awarded the Davy Medal of the Royal Society, and to have been elected a Full Member of the Soviet Academy of Science.

In 1954 he was elected Fellow of the Australian Academy of Science, and in 1958 Fellow of the Royal Society.

Professor Birch has delivered lectures and chaired conferences around the world, and has served on a number of scientific committees and councils. To mention but a few, he was the Royal Society Delegate to Romania in 1966, Treasurer of the Australian Academy of Science from 1969 to 1974, and a member of the Advisory Committee of Science and Technology from 1972 to 1973.

Professor Birch has taken an active and enthusiastic lead in the general area of science and the community and is the author of a number of articles on the history of ideas in science, of science policy in government and the organization of science museums.

Last year he was the motivating force behind the highly successful science festival staged in Canberra as part of 'Australia 75'.

The exhibition in which CSIRO was substantially involved, was never intended merely as a venue to display some of the contributions Australian scientists and technologists had made to science and invention in this and other countries.

It went much further than that. It endeavoured to portray some of the characteristics of scientists, how they think, how they feel about their work.

Nor was it an impersonal exhibition. From the outset, Professor Birch insisted that at all times the people involved should be on hand to talk to the community about their work and even their ideals.

He saw this—an attempt to break down the communication barrier which sometimes exists between scientists and the community—as an integral part of the festival.

Businessman

Sir Cecil Looker, who graduated from Sydney University with a degree in arts, started his career as a public servant.

He was appointed Private Secretary to the Rt Hon. R.G. Casey, (the late Lord Casey) in 1938 and in 1939-41 held a similar position on the staff of the Prime Minister, the Rt Hon. (now Sir Robert) Menzies.

Following his wartime service in the RANVR, Sir Cecil became a partner in the firm of Potter Partners (incorporating Ian Potter and Co.) retiring from there this year.

Between 1966 and 1972 he was Chairman of the Stock Exchange of Melbourne Limited and is a former President of the Australian Associated Stock Exchanges.

He is President of the Royal Automobile Club of Victoria Limited, Chairman of the Australian United Corporation Limited and Plessey Pacific Pty Ltd, a Director of Ansett Transport Industries Limited and a member of the Victorian Promotion Committee and the Royal Agricultural Society Council.

Sir Cecil was also Chairman of the Executive Committee of the Duke of Edinburgh's Third Commonwealth Study Conference in 1968.

Mining interests

Mr R.T. Madigan brings to the Committee a wide range of interests. Born in Adelaide, he is a mining engineer by profession. He also holds a degree in law and in his spare time flies his Cessna aircraft back to his South Australian farm.

'Worthwhile exercise'- Chairman

The Government's independent inquiry into CSIRO would prove to be a worthwhile exercise for the Organization and Australia's primary and secondary industries, the Chairman, Sir Robert Price, said following the announcement of the Review in Parliament.

'CSIRO by its very nature, must be closely in touch with the needs and priorities of this nation to be an effective national research Organization', he said.

'But these needs and priorities change continually and may, in turn, have an effect on CSIRO's role.'

It was also significant, Sir Robert said, that the Committee would not be looking at just one or two areas within CSIRO, but at the whole gamut of the Organization's activities, management and philosophy.

In the past CSIRO had conducted its own surveys, inquiries and investigations into almost every sector of its operations. These had kept CSIRO, he believed, in close contact with the needs and priorities of not only primary and secondary industry but of all sectors of the community on which it impinged.

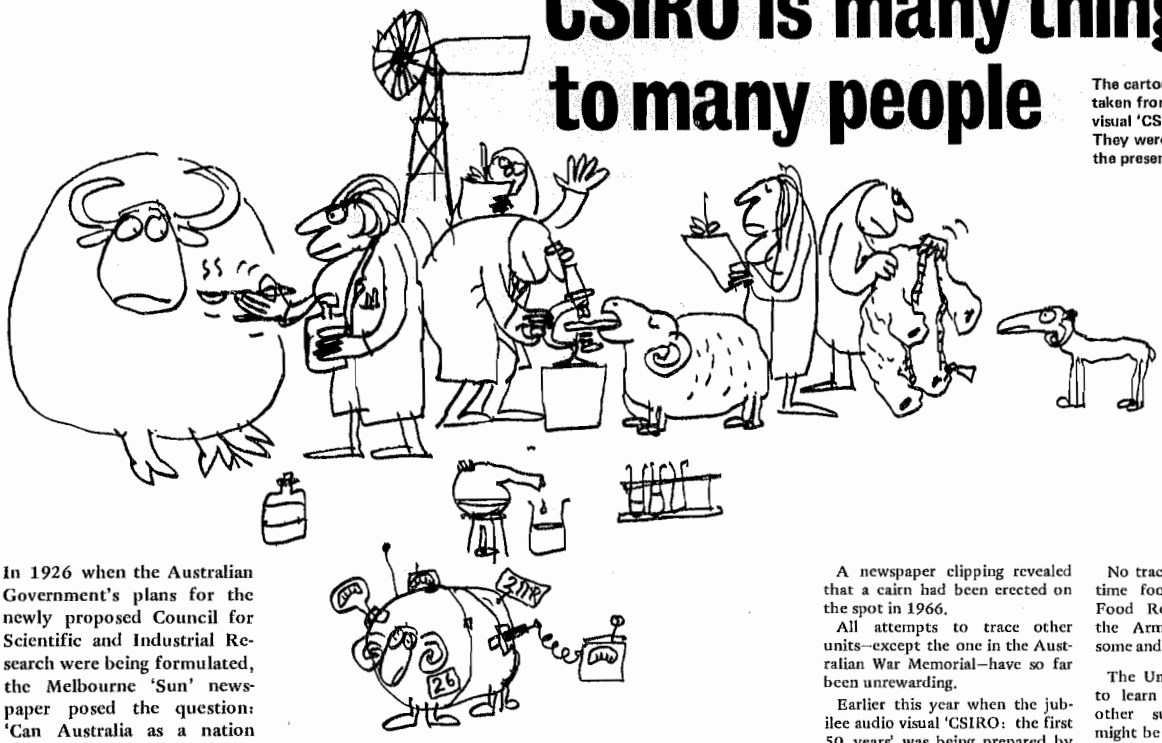
'However, the Government's Committee will look at the overall picture and this must add a valuable dimension to the future planning of the Organization.

'It is nearly 30 years since the last external review of CSIRO, and as CSIRO now represents a significant proportion of Government expenditure, the Government's decision to establish this inquiry is not unexpected.'

Continued on page 10

CSIRO is many things to many people

The cartoons on this page are taken from the jubilee audio visual 'CSIRO: the first 50 years.' They were specially drawn for the presentation by Bruce Petty.



In 1926 when the Australian Government's plans for the newly proposed Council for Scientific and Industrial Research were being formulated, the Melbourne 'Sun' newspaper posed the question: 'Can Australia as a nation afford to spend on scientific research a sum which would provide each inhabitant of the country with one glass of beer'.

This, said the editorial published on 23 March of that year, was one way of putting the amount of expenditure proposed for the Council.

For the first year the sum of £40,000 would be spent and for the second £50,000, but eventually the amount would rise to about 100,000.

'With the Commonwealth's present population of roughly 6,000,000 people, the sum of £100,000 is 4d a head,' the editorial continued.

'The truth is that Australia cannot afford not to spend whatever is necessary within reason to encourage scientific research.....

'Fortunately for the nation, men of science usually care little for material rewards. Many of our most successful inventions are based on the long and arduous work of research men who themselves make no attempt to turn their discoveries into money...'

Within three months of the editorial, Australia had its new Council for Scientific and Industrial Research. Over the 50 years since then Australia's investment in the Organization, both as CSIR and since 1949 its successor, CSIRO, has been repaid many times over.

When Federal Parliament opened in Canberra in 1927 the new Council still had only one laboratory and a staff of 41 with its headquarters at 314 Albert Street, Melbourne.

Today it has a staff of 7000, about 2000 of whom are scientists, the rest being made up of technical, administrative and other support personnel.

Since 1971 the Organization's headquarters have been in Canberra and CSIRO now has 37 Divisions and six Units working in some 100 laboratories and field stations across the country. A small number are engaged on special projects overseas, either working on aid programs or doing related research affecting their Australian programs.

The budget has been increased from £40,000, the figure set aside for the first year of operation, to $142.4 million (from both Government and industry sources) for the 1976-77 financial year, while a further $13.3 million will be spent by Government Departments on buildings, works and the acquisition of sites.

While CSIRO's prime purpose has always been to assist the primary and secondary industries, it has increasingly geared its research to the wider fields of the environment and community-oriented programs as Australia's own national goals have changed.

None of its growth or its achievements, however, occurred overnight.

Official history

Many publications have documented the story of the growth of CSIRO and a new official history spanning the years leading up to its formation through to the late 1960s is now being prepared.

This, along with other books and archival material that has been stored away, provides the researcher with material on the background of the Organization.

But even so, much is being lost simply because stories about the people who helped create the CSIRO ethos are not being written down.

It is the nature of official documents that they record the more conventional aspects of history, but CSIRO has always gathered around it many unconventional personalities.

Many of these personalities have either already retired or are about to and the stories about them or that they could tell will be lost forever if people are not encouraged to put their tales down on paper.

Some Divisions are beginning to compile their own histories and it is to be hoped that these stories can be recounted for these publications at least.

Equipment

Until recently a bleak Government store was used to house official records but it is possible that one day some of the more interesting material, along with historical items of equipment, may be displayed in some kind of science museum.

But finding that equipment is becoming increasingly difficult. In times of hardship, parts get broken down and used for other things; when space is hard to come by, 'old rubbish' gets dumped.

Just how hard it is to locate that early equipment has been demonstrated recently.

Sir Frederick White, a former Chairman and former Chief of Radiophysics, wanted to know what had happened to the first wartime transportable radar unit sent to Darwin. The units had been developed by the Division.

Efforts by Sir Frederick and Darwin staff failed to reveal much success. Cyclone Tracy had destroyed records at both the local newspaper and museum but finally the museum staff did locate a picture (page 7) of the unit installed above Dripstone Cave.

A newspaper clipping revealed that a cairn had been erected on the spot in 1966.

All attempts to trace other units—except the one in the Australian War Memorial—have so far been unrewarding.

Earlier this year when the jubilee audio visual 'CSIRO: the first 50 years' was being prepared by the Central Communication Unit efforts were made to find other historical material.

Radiophysics had built one of the world's first digital computers. Later it was given to the Science Museum of Victoria. It was found reposing in a store in a Melbourne suburb.

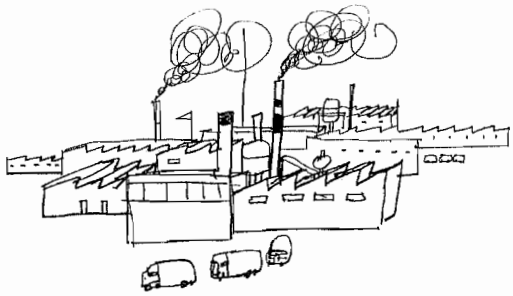
The first calculator bought by CSIR turned up as a treasured possession of Computing Research.

No trace could be found of wartime food packs developed by Food Research but fortunately the Army was able to supply some and photographs were taken.

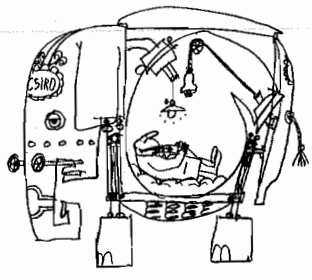
The Unit would now be happy to learn of the whereabouts of other such equipment which might be of use for reference purposes or possible displays.

For anyone delving into CSIRO's past there is one item in the archives that provides a wealth of fascinating material—a small cardboard box containing press clippings from 1915 through to 1928.

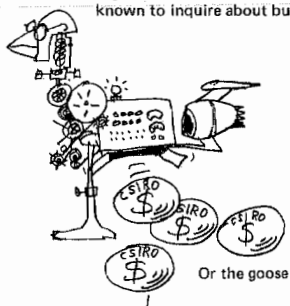
Newspapers in those days frequently reported things verbatim and it is from these accounts that the material on pages 5 and 6 have been compiled.



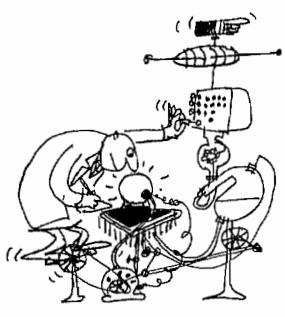
Some people think we're a big company producing sugar or chemicals or something and have been known to inquire about buying shares.



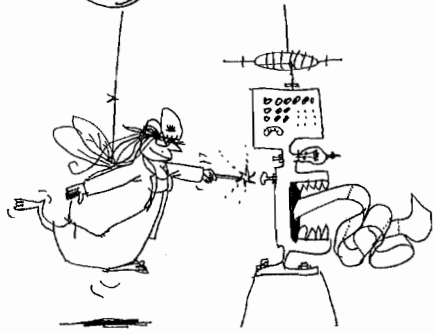
To some we're a white elephant



Or the goose that lays the golden eggs

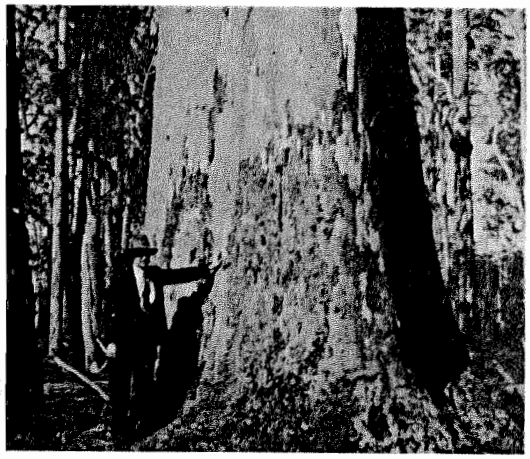


To others we're a lot of scientific eggheads doing obscure experiments in strange laboratories



Some say CSIRO is a fairy godmother providing Australia with answers to every problem

Early press clippings tell story of formation of CSIR-CSIRO

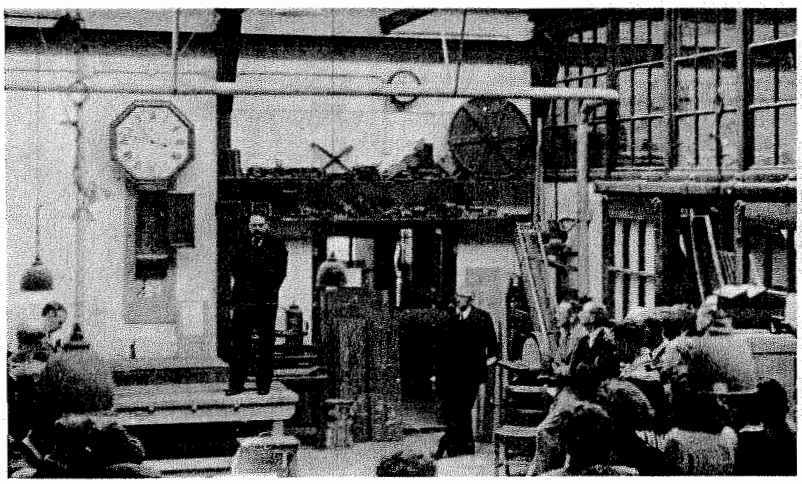


From the beginning CSIR was involved in finding ways to utilise Australian hardwoods.

The possibility of manufacturing fuel alcohol on a big scale on an economic basis from crops such as cassava was one of the issues raised by Sir Frank Heath, head of Britain's DSIR, when he visited Australia and New Zealand in 1925 to discuss with the governments of those two countries the possibility of setting up scientific organisations which would work in cooperation with DSIR.

'In England we have worked on the production of fuel from crops such as cassava,' Sir Frank said at a conference he had with the Government. 'I understand there are proposals to grow cassava on a large scale in Queensland.'

The report of that conference and many others concerned with the establishment of the Council for Scientific and Industrial Research and its successor, CSIRO, have been preserved in the Organization's archives.



Dr H.E. Dadswell and Mr S.A. Clark talk to staff at the first laboratory at 314 Albert Street, Melbourne.

The newspapers of the day gave wide coverage not just to Sir Frank's visits but also to the debates and discussions that went on over the setting up of the Advisory Council and Institute of Science as well as CSIR itself. Press clippings of these reports were retained and today are crammed tightly into a small, unpretentious cardboard box labelled 'Administration and Organization–Publicity etc.'

In the box are about 15 faded blue files, each of which is packed with extracts from the daily papers of 1915 through to 1928.

Most of the clippings are browned with age, slightly tattered at the edges and about them is that musty smell which seems to go with old records.

But they tell the story of the difficulties which beset the men who had the vision to see that Australian industry, both primary and secondary, needed the help of the scientific community if the country's economy was to be improved.

It was one thing for Prime Minister Hughes to call upon science with its 'magic wand to turn heaps of refuse into shining gold, to make the desert bloom like a rose and lead people to a saner and wider outlook on life.' It was, according to the press reports, another thing to get public and financial support for such an organization, especially at a time when Australia had an economy stretched thin during the post war years.

A well-known scientist, Professor W.A. Osborne, was reported by the 'Age' in 1915 as saying that the influence of such a scientific body as was then being envisaged would be felt in many avenues. 'The cooperation of industry has been the dream of men of science for half a century' he said.

Professor Osborne referred to the influence science had already had on industry overseas. 'The case of Germany has been reiterated to a point of nausea but I am compelled to mention it again as it forms the most striking example.'

He spoke of the effects on Britain when she suddenly found her supplies of chemicals had vanished as a result of the war. England had no organised chemical research and industry had reached the stage where it could not go ahead without the aid of science.

Prime Minister Hughes who attended the same meeting said that there was great wealth in Australia but the country

> 'is practically in its swaddling clothes. Economically we are in our schooldays.'
>
> The country had to take advantage of the 'plastic state of public opinion as we pass through our hour of trial,' and he thought the idea of the national science laboratory was the cornerstone of a new edifice. (Applause).
>
> 'We could gather around us men of all branches of science and use their capabilities in an application to industry. Applied to agriculture and secondary industry science could solve the problems that beset us. ....
>
> It was perfectly clear, said Prime Minister Hughes, that whatever was done with the new institution must be done on sound lines.
>
> 'It will have to stand on the solid rock though its topmost pinnacle may pierce the fleecy clouds of the sky.'

If the infant Advisory Board was founded among high optimism it did not receive the financial support that it was promised and there was criticism of its expansion.

A 1918 report is headed

> The Burden of Taxation
> Federal Government's
> Reckless Spending
> Vigorous Protests in Parliament
> Science Institute Condemned
> Illegal Expenditure on
> the Bush Capital

The clipping is not sourced but whichever paper it came from reported, not altogether dispassionately, a debate in the House when dissatisfaction was expressed at reckless wartime spending on matters of ordinary Government administration, including the provision of money for the establishment of the Advisory Council and equipment for its laboratory.

When the Minister for Works and Railways (unnamed) protested and said the Council was doing good work, a member asked if it had found out how many legs a cattle tick had. (Laughter).

Sir Robert Best then said it was successfully spending money and could the Minister give one instance of useful work being done.

> Mr Sampson (V) said he did not condemn the principle of establishing an Institute but if this bureau of science was to be merely the appointment of a number of university professors who would make academic researches without putting them to any practical test the money would be thrown away. (Hear, hear.)

The Advisory Council was to struggle on without much financial support and without laboratories of its own but it did appoint a number of expert committees which did valuable work in coordinating and stimulating research in existing laboratories.

It also set in motion the agencies which largely succeeded in eradicating prickly pear, a form of cactus which covered much of the valuable rural land. It also started the investigations which led to the successful utilisation of Australian hardwood pulp in paper making.

In 1920 the Government passed an Act establishing a permanent Institute of Science and Industry but even this was hard pressed for financial support.

The Melbourne 'Herald' in 1923 reported that the Director of the Institute, Sir George Knibbs, and his staff still had to struggle on under 'the present inadequate grant of about £20,000.'

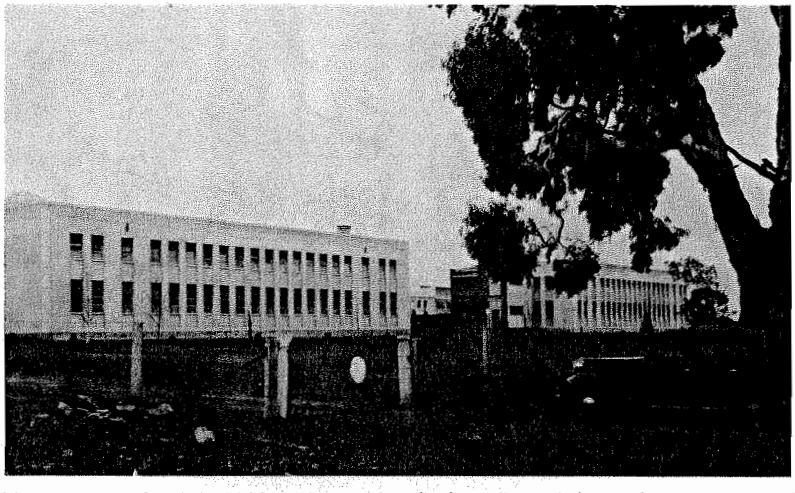
At the time the Institute wanted to employ an entomologist at the salary of £600 which it would have to meet out of its budget.

Sir George, when asked if the advertisement indicated that the Institute was embarking on a new line of entomological research..... said that new areas of research were continually arising in the Commonwealth in connection with pests such as wood borers, cotton pests, schemes for prickly pear destruction and for the destruction of plant pests generally.

He added that the Institute should deal with insects that attacked dried fruit products such as those that came from the Mildura region and those which attacked cereals stored in bulk. There was also the quarantine of imported materials to be considered and the buffalo fly to be investigated.

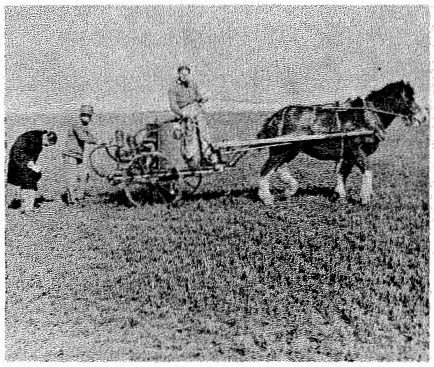
> 'Obviously more than one entomologist is needed', Sir George concluded, 'if the Institute is to cope with the problems.'

Turn to page 6

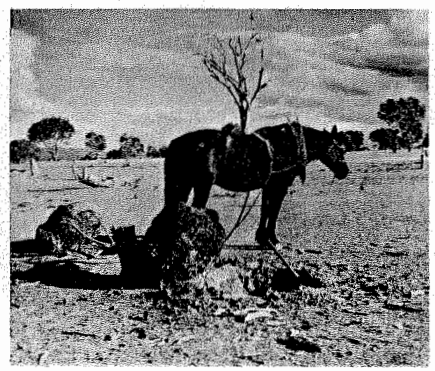


The first laboratories of the Divisions of Entomology (left) and Economic Botany (later Plant Industry) were built on the Black Mountain site in Canberra in 1929-30.

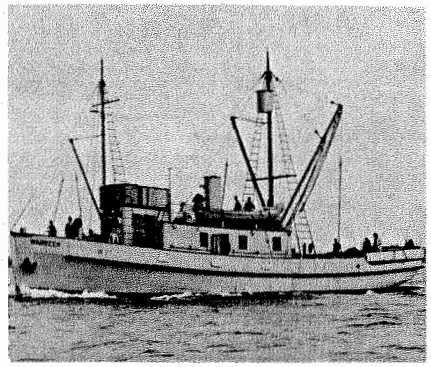
Early priorities matched needs -



Since the Council was first formed, CSIR has been involved in agricultural research.



An early form of 'official vehicle' used by Economic Entomology in 1930 to drag pieces of termite mounds to the laboratories. Canberra's Red Hill is in the background.



CSIRO's first fisheries research vessel, acquired in 1938, was the 'Wareen'.

Continued from page 5

Despite difficulties the Institute made some progress in its plans to assist industry, particularly in forest products research. It also saved the banana industry from destruction by the virus disease 'bunchytop'.

By this time the Government was looking for ways to reorganise the Institute and expand its activities. At the same time, Britain's DSIR was seeking greater scientific cooperation from the Dominions to help in the economic problems facing the British Empire as a whole.

When Sir Frank Heath visited Australia in 1925 the press gave his visit wide coverage from the time he 'arrived at Outer Harbour by Nestor.' He was described by a Melbourne paper as being 'slightly past middle age and accompanied by his wife.'

Sir Frank had not previously visited Australia—'indeed this is the first occasion he has been south of the equator'—but he wasted no time in investigating the problems which beseiged the country and the reports show he was anywhere from Hobart to Mildura from Sydney to Adelaide and Perth.

Astutely, Sir Frank saw many ways of 'accomplishing active cooperation between the Commonwealth and the Motherland.'

The problems of handling meat, fish, eggs and vegetables in the two countries were different but given time he said, 'science will solve the difficulties.'

He felt Australia had to be concerned with ways of transporting beef

> 'in such a way as to obtain for it the same price as chilled beef from the Argentine.
>
> 'Fuel problems are no less important. Both Britain and Australia have their own coalfields but neither of them has found oil within their boundaries. Both need oil—and if oil could profitably be won from coal, we should benefit enormously.
>
> 'And there is the possibility of alcohol as a fuel—possibilities more promising for Australia than Britain. (Petrol, Sir Frank Heath told another reporter at the time, was selling at 1/3 a gallon in England, and in Australia it was 2/3. If you could make alcohol fuel for 2/- a gallon that would be a good business proposition).

Sir Frank also wanted to investigate the wider use of Australian timbers and spoke of the threatened world shortage of softwoods 'in less than a generation.'

Conference

In 1925 the Government convened a conference of scientific and industrial leaders and as a result of that meeting and Sir Frank's report it decided to form the Council for Scientific and Industrial Research.

The first Executive Committee comprised Mr G.A. (later Sir George) Julius, a Sydney consulting engineer, Professor A.C.D. (later Sir David) Rivett, Professor of Chemistry at the University of Melbourne, and Mr W.J. Newbigin, a Sydney engineer.

Sir George Julius

Mr Newbigin died not long after his appointment and his place was taken by Professor A.E.V. Richardson, an agricultural scientist. Julius, Rivett and Richardson, who became known as the 'holy trinity' were to guide the Council throughout much of its existence and certainly through its formative years.

Much has been written in the history books of the work and influence of Sir George and Sir David, and the archival press clippings provide additional records.

For example, on 5 November 1926 the Adelaide 'News' interviewed the new Chairman and that report gives a detailed account of how Sir George Julius saw CSIR's research priorities.

More damage, he said, was being done by unsolved agricultural problems than by drought or fire.

> 'At first blush,' said Mr Julius, 'nothing could seem more remote than the connection between the breeding of a prize bull and the research of a scientist. To the casual spectator the breeding of these magnificent animals may seem a mere matter of course.
>
> 'It would surprise him to know that to reach a standard the scientist must cooperate with the farmer, with the dealer, with the slaughterer, with the shipper, and work out the best means of ensuring, let us say, that the meat we export shall be as good as that sent away by the Argentine.

Uphill fight

'Today we fall far below that country. The way to their high standard is long and uphill. We may never reach it, but it is no exaggeration to say that the chief agent of possible success is not the breeder, but the research student.

'The farmer may be unconscious that science has a large role to fill in improving his handiwork. Science would seem to him to have less concern with the working of his farm than almost anything he could think of. And yet it could be demonstrated that behind the wool, the mutton, the cattle of Australia, lie concealed problems that can be tackled only by trained minds.

'There are pests that attack both animal and plant life whose elimination will add millions to the wealth of this country. Science is already organising to fight these enemies of prosperity.

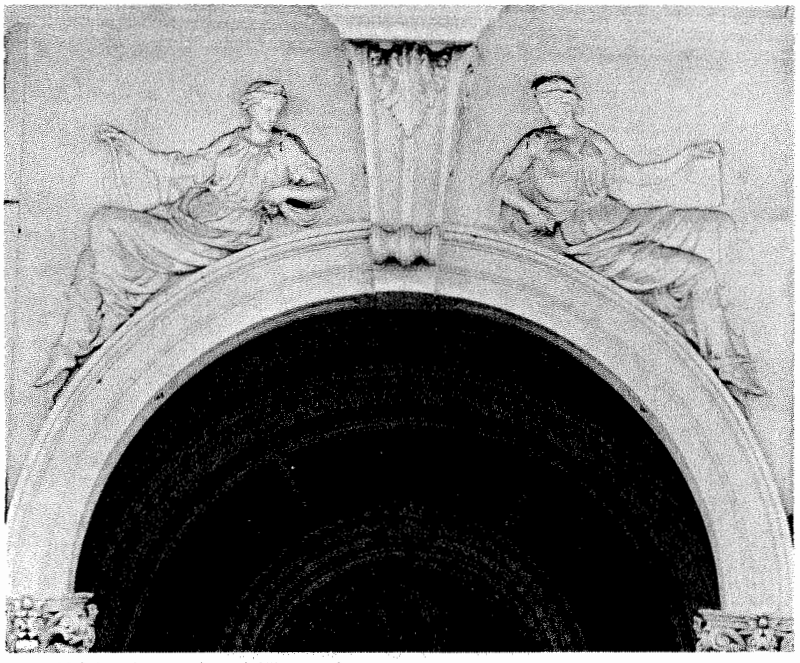
'Science is not a cold entity sitting aloof concerned only with laboratories. Not the humblest activity of our communal life is free from the beneficial touch of science. It walks hand-in-hand with prosperity; its defeat would mean the diminution, the running to seed, of almost every means whereby we live.

'We have refrained from establishing a centralised organization...but there are, however, certain problems that must be undertaken ultimately by a central organization.

'Forest products work is one of these. It is one of the most important things we are facing. We have been squandering our forest substance most shamefully. As an instance, let me say that in a typical sawmill the wastage is often as high as 85 per cent. Science can show a better use of the timber itself and means for utilising what is now destroyed as waste.

'There are, of course, the important subjects for research into animal and plant pests. The blowfly costs Australia millions; its eradication would be of incalculable importance. Other matters of hardly less advantage are pendent to this. Problems concerned with the growing of fruit, its transport and preservation from pests, are today calling insistently for increased investigation.'

Science at work

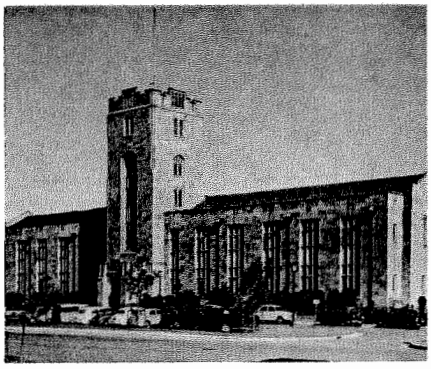


'It wouldn't have happened to a Selfil gown...'

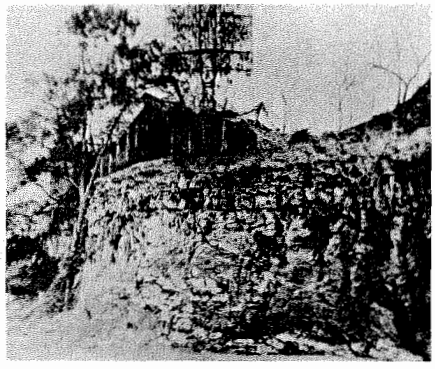
It is not generally known—or appreciated—that these 'lovelies' have graced the archway over 314 Albert Street, Melbourne, since the beginning of CSIR/CSIRO.

Photo: Wal Hastie

but expanded as industry grew...



The National Standards Laboratory (now National Measurement Laboratory) was established just before World War II in the grounds of Sydney University, as the emphasis on research began to change.



The historical photograph of the first wartime transportable radar set devised by Radiophysics and located at Darwin (see page 4).

Opium poppies and other plants were grown during the wartime era to find local sources of drugs previously imported from overseas.

When CSIR, the Council for Scientific and Industrial Research, was established by Act of Parliament in 1926 it was envisaged that it would contribute to the goal of greater economic interdependence between the nations of the British Empire.

The Prime Minister, Mr Bruce, was particularly interested in fostering scientific liaison between the Council, Britain's DSIR, and other similar organisations in other parts of the Empire for mutual assistance.

'Cooperation in research is going to achieve very nearly as much in relation to Empire development as co-operation in Empire defence has already done,' he said in his address at the first meeting of the Council on 21 June 1926, 'and I believe it is going to be the basis of the future of the Empire.'

When the Council set about determining how its limited resources should be deployed, without spreading them too thinly, it was guided by what was then seen to be Australia's role as a supplier of primary produce for the British Empire.

Accordingly the Council decided in its early years to concentrate mainly on problems associated with pests and diseases of plants and animals, food preservation and transport, and utilisation of forest products.

By the early 1930s six Divisions had been established to cope with the work—Animal Nutrition, Economic Botany, Forest Products and Economic Entomology (all in 1928), Soils (1929) and Animal Health (1930).

In this early era investigations were also started into fisheries, food preservation, ore dressing, irrigation settlement and radio research, but some groups doing this research were not to reach Divisional status until later.

From the beginning the founding fathers endeavoured to lay down the principles that have guided the Organization ever since...that the best people available in the world should be appointed to the jobs and that once appointed they should be given considerable autonomy to get on with the work. Support services were to be directed to apply a system of administration geared to assist the scientist and the objectives of research.

Of the first six Chiefs, one was an Australian, two were English, two were born in Scotland and the other came from Canada.

B.T. Dickson was appointed Chief of Economic Botany, R.J. Tillyard led Economic Entomology, J.A. Gilruth became Acting Chief of Animal Health Forest Products was led by I.H. Boas and the smaller Division of Soils was headed by J.A. Prescott. T. Brailsford Robertson became the first Chief of Animal Nutrition.

Reputation

During the first few years of its history, the Council began to develop its reputation for sound scientific work, much of which came from the successful investigations linked with the pastoral industry, particularly in the improved health and nutrition of sheep.

It might be said in some ways that the depression of the thirties did much to consolidate CSIR's position. At a time when Australians were enduring an era of unparalleled economic hardship, when wool prices were falling and overseas consumers were not prepared to pay viable prices for their imported primary produce, science offered the graziers and pastoralists some hope.

From CSIR was coming a flow of new ideas on animal health and animal husbandry techniques.

Effective vaccines to control black disease and pulpy kidney in sheep, and contagious pleuropneumonia in cattle were developed, and minute quantities of copper and cobalt were found to be vital to the health of both sheep and cattle.

Ways were found to treat tobacco seedlings to control blue mould, virus-free potatoes were bred, bitter pit in apples proved to be controllable, discoveries were made in ways to increase the storage life of fruit, vegetables and meat without loss of quality, and useful progress was made in the search for techniques to utilise Australian hardwoods in the making of paper pulp.

In this important period before World War II, the Council was to make its impact, particularly on the Australian rural community.

The foundation for its reputation was very largely laid down through a combination of factors. These included the high standard of the people employed, the equally high standard of their work and the timing—this was a critical period in Australia's economic history, when so much of the potential wealth of the country was begging for scientific assistance.

The Council itself was affected by the financial crisis but weathered the depression with grants from the Empire Marketing Board, Rural Credits Development Fund and various other benefactors. With the changing fortunes of the mid-thirties a more prosperous community was able to take advantage of the technological advancements of the era and these in themselves stimulated secondary industry in Australia.

Industrial growth

Australians began to build the bodies of cars into which were fitted imported engines...this stimulated the manufacture of sheet steel, timber and leather products, paints, varnishes, bumper bars, shock absorbers and springs.

Public broadcasting on radio began in 1920 and there was a need for greater knowledge of what this involved as well as the industry it created. Home appliances like the telephone became more popular. As the economy was restored there were demands for construction work to increase, bridges to be built, roads to be made.

It was time for CSIR to move more into the field of secondary industry and a committee was set up to report on what the Council should be doing. Julius, an engineer himself, chaired the group.

The Committee's recommendations transformed the activities of the Council and although its agricultural and pastoral research was to continue and expand, it now extended the interests of its growing staff into new fields.

Much of this work was still in the planning stages when war broke out and the situation became dramatically changed.

The National Standards Laboratory (now the National Measurement Laboratory) was founded just in time to begin its collaboration with the Munitions Supply Laboratory to provide a comprehensive measurement service to the munitions manufacturing industry.

An Aeronautical Research Laboratory, the Divisions of Chemical Industry and Radiophysics, the Dairy Research Section and the Lubricants and Bearings Section (later to become the Division of Tribophysics) were all switched to wartime research.

Many of the stories about the Council's wartime endeavours have gone down in the history of Australia. Its staff devised ways to can and dehydrate food for the troops, manufactured optical glass for gun sights, grew opium poppies and other plants for drugs no longer available from overseas sources, finding atropine and hyocine in native shrubs.

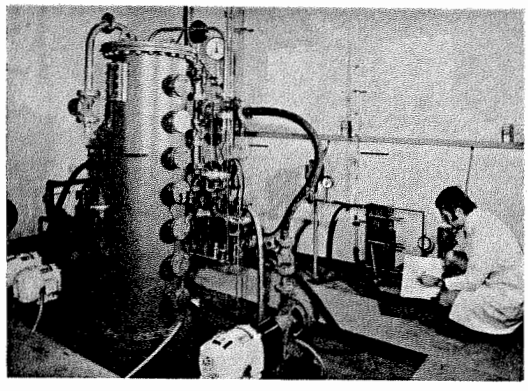
When Dr B.T. Dickson returned to Canberra last month for some of the jubilee celebrations he paid a visit to Black Mountain. This triggered off many reminiscences of 'the good old days' not the least were histories of how he had probably grown more 'dope' than any other person in Australia.

During the war years when drugs and other substances were being sought from local plants to replace overseas sources he had grown opium, marijuana and Indian hemp 'by the acre' on the Black Mountain site.

The hemp, he said, was planted as a possible substitute for the imported fibre. Some of the plants were left to grow wild and the story is told that later a rather tricky situation developed when the Customs authorities learned about them even though the situation had a perfectly innocent explanation.

Its scientists devised ways to prevent the crazing of perspex windshields in aircraft, treated leather boots for the tropics and worked out a way to shrinkproof army socks.

In setting up a new Division of Industrial Chemistry under Dr (later Sir Ian) Wark it took the first step in bringing together a group of scientists and technical staff who were eventually to play an important role in the development of Australia's mineral resources.



Sirotherm, a desalination process for purifying water, was developed by the Division of Chemical Technology and ICI Australia.

Research by the Division of Applied Geomechanics is aimed at improved ore recovery and safety in Australian mines.

Continued on page 8

...and changed to meet new national goals

Continued from page 7

In 1941 when R.G. Thomas, who had been appointed head of a Minerals Section gave his inaugural talk to his staff, he is reported to have introduced his address with 'a characteristic sample of misquoted whimsy':

> The Walrus and the Carpenter
> were walking hand in hand;
> They wept like anything to see
> such quantities of sand.
> 'If this were sent to the USA,'
> they said, 'It would be grand.'
> 'If seven maids with seven
> mops swept it for a year
> Do you suppose,' the Walrus
> said, 'that they could get it
> clear?'
> 'I doubt it,' said the Carpenter, 'we'd better treat it here.'

'Treating it here' became a major goal of the Section.

After the war, the wartime Divisions reverted to peacetime work and looked for new ways to apply the skills and knowledge acquired during the previous five or six years.

The most spectacular applications probably came from the Division of Radiophysics which, following on its wartime success with radar, developed improved navigational aids for aircraft which in turn led it to devise Interscan. Later this year this may be adopted by the international aviation authority as its choice for a new international landing scheme.

The Division also pioneered what was then the infant science of radioastronomy and became a leader in the field. The installations at Parkes, Culgoora and Epping continue to attract internationally famous astronomers while the Division itself has produced some of the world's leading figures in this science.

In 1945 Sir George Julius retired and his place as Chairman was taken by Sir David Rivett, the man who was to see the Council go through one of its most traumatic periods.

1948 was an era when some of the western countries suspected the presence of a communist behind every laboratory door, in every government office, On 1 October a furore broke out in Canberra when the Opposition alleged in Parliament that Britain and the United States were concerned at the possible leakage of atomic research secrets through CSIR.

The newspaper reports of that and successive days carried banner headlines about the story. The Prime Minister, Mr Chifley, strongly denied the accusations and the Minister for Defence, Mr Dedman, who was Minister in charge of CSIR, said 'no leakage had ever occurred from CSIR and that no reputed communists on the staff had anything to do with defence matters.'

According to the Melbourne 'Sun', the incidents arose during discussion on the budget estimates when the Acting Leader of the Opposition, Mr Harrison, said that as some of the expenditure for the Council was for nuclear research the Government should reveal the relationship of CSIR to defence research.

Atomic secrets

The United States was alleged to be reluctant to give Australia secret information on its atomic research program. This reluctance, Mr Chifley was reported to have said, 'might be due to the belief that CSIR is not fully under the control of the Government and that the head of the Council in a public speech had said he believed that CSIR should not undertake secret work.'

Papers all over the country carried stories on the controversy and statements were made by people, many of which according to Sir Frederick White in an article he later wrote on the subject, were 'erroneous, irrelevant and of little significance.'

The storm which raged eventually led to the passing of the Science and Industry Act of 1949 under which the Council relinquished all secret or 'classified' work of a military nature.

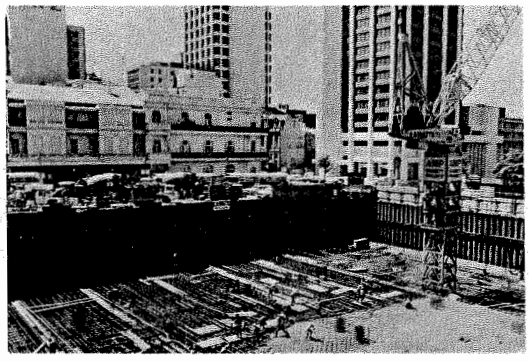
According to Sir Frederick 'it was Rivett's prestige and the appreciation of Chifley and Dedman of what he and his colleagues had done for Australia that led the Government to insist only on essential changes in the Act. It actually placed greater responsibility on the Executive of five members and since it no longer had a governing "Council" the name had to be changed.'

This gave rise to the new name, the Commonwealth Scientific and Industrial Research Organization—the name was different but the work continued as before, except for its military aspects.

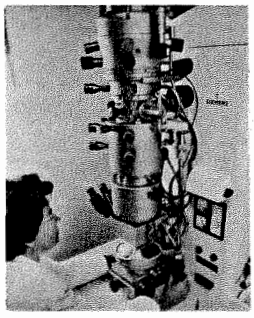
Sir David retired as Chairman and CSIRO now began a new regime under the chairmanship of Sir Ian Clunies Ross. Sir Frederick became the Chief Executive Officer and on Clunies Ross' death in 1959 became Chairman.

He was to be followed in 1970 by the present Chairman, Sir Robert Price.

In spite of the political acrimony which surrounded the Council, CSIRO inherited a strong foundation on which it has continued to build. With money easier to come by, the new Organization has gone on to achieve many notable successes which have enhanced its image and captured the public mind.



Soil mechanics investigations have improved raft foundation design.



The electron microscope is a modern tool in scientific research.

Work which was begun in the late 1940s was expanded and many new initiatives were taken. New groups such as meteorological physics were formed and research was carried out into building materials, wool textiles and coal.

Northern surveys

Attention was focused on the under-developed areas of the north of Australia, new pasture plants were introduced and more productive strains of cattle were bred for the hot humid regions.

Animal production continues to be investigated as do the diseases which affect our livestock industries.

Novel approaches have been developed for the control and management of insect pests and weeds by biological means and by methods which minimise the use of chemicals.

Research by CSIRO on food has resulted in new and improved methods of cheese making, techniques of recovering valuable protein from abattoirs and dairy factory wastes, more efficient techniques of freeze-drying foodstuffs, and the development of meat and dairy products containing a higher than normal proportion of polyunsaturated fats.

Processes have been developed which allow wool to be shrink-proofed, moth-proofed, permanently pleated and given wash-and-wear properties, and investigations into textile flammability have provided a more realistic basis for establishing official standards for clothing flammability.

Self Twist and Selfil spinning machines developed in collaboration with private industry can spin woollen yarn 15 to 20 times faster than conventional spinning machines; they occupy much less space, use less power and are quieter, more versatile and easier to clean and maintain.

The control of the rabbit plague by the virus disease myxomatosis was to capture the public mind in the 1950s.

Fisheries research has resulted in improvements to that industry and investigations are being undertaken into Australia's most valuable fisheries resource, the western rock lobster.

A survey of prawn resources in the Gulf of Carpentaria led to the establishment of a major prawn fishery while the mapping of sea surface temperatures with infrared radiation thermometers mounted on light aircraft has not only proved to be a useful research tool but has also helped fishermen locate schools of southern bluefin tuna.

CSIRO has made important advances in a number of areas such as mineral processing, mineral exploration, utilisation of local trees for timber and for the manufacture of pulp and paper, desalination of water, and pollution control.

The National Measurement Laboratory maintains the nation's legal standards of measurement on which Australia's commerce and industry are based.

CSIRO has been one of the world leaders in the utilisation of solar energy for low temperature heating. Solar water heaters based on CSIRO designs are used extensively in many places in Australia and overseas.

New instrument

Another advanced instrument developed by CSIRO is the atomic absorption spectrophotometer which can measure minute traces of various metallic elements in a whole range of substances as different as soil, blood, urine, plant tissues, minerals, wine and fuel oil. These instruments are manufactured in Australia and overseas under licence from CSIRO and are used widely in factories, hospitals and laboratories throughout the world.

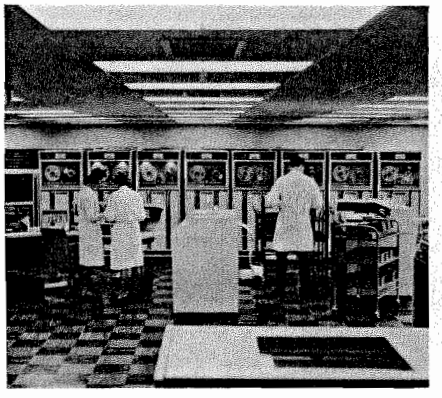
A substantial program of research is concerned with environmental and community interests. Many ecological investigations have been made of various plant and animal communities and of individual plant and animal species. Such investigations play a vital role in the proper management of Australia's natural resources.

Studies are also being undertaken into the needs and preferences of people living in remote communities and in high rise areas of cities and a whole new range of building techniques and materials are being devised.

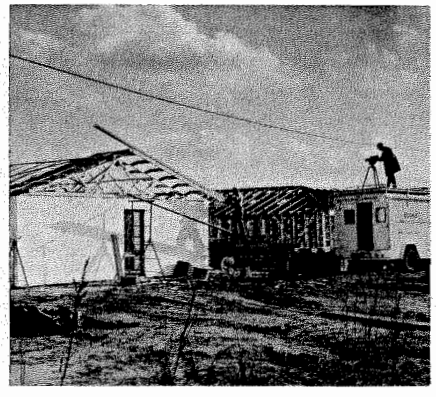
While investigations into animal nutrition continues research programs have been extended now into the field of human nutrition, an area in which comparatively little work has previously been done in Australia.

Atmospheric studies are providing a better understanding of the processes that govern our weather and are leading to more accurate forecasting. They are also providing valuable information on airborne pollutants and their dispersal.

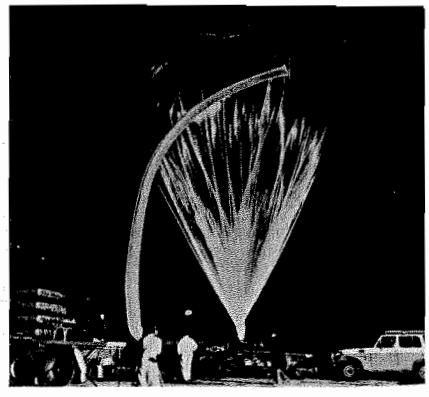
As CSIRO enters the second half of its century of service to the Australian community, a major review is to be made of its management and research priorities, the first for nearly 30 years. The Chairman, Sir Robert Price, has welcomed this move as one which will help CSIRO in its efforts to match research objectives to the needs of changing national and community goals.



Computers play an important role in both research and management and are a field of research in themselves for CSIRO.



The Division of Building Research monitors progress at a construction site.



CSIRO's research today is concerned with investigating the environment in which the community lives.

First Chief of Plant Industry returns to old haunts in ACT

Just inside the Botanic Gardens in Canberra there is a eucalypt tree with a small bronze plaque alongside it. It was planted by Dr B.T. Dickson, the first Chief of the Division of Economic Botany (later Plant Industry) who wrote the feasibility report on the establishment of the gardens that have since become famous throughout Australia.

The eucalypt and another tree planted by the then Prime Minister, Mr J.B. Chifley—an oak which has since been moved—were the first trees officially planted in the Gardens.

Last month Dr Dickson, now 91, came back to Canberra for the unveiling of the commemorative plaque at Head Office. He had a special request: 'While I'm here I'd like to spend half an hour or so in my gardens'.

Dr B.T. Dickson

Arrangements were quickly made to get him there. Dr Dickson was greeted by the Curator of the gardens, Mr J.W. Wrigley, and an escorted tour by car was arranged for him with Dr Dickson getting endless enjoyment from recalling experiences associated with the early development of the area.

Dr Dickson came to Australia from Canada in 1927 to take up a position as chief mycologist with the newly formed CSIR. Instead, through a sequence of events he found himself Chief of the new Division, a position he took over in March 1928.

'When I arrived in Melbourne I met the Executive,' he recalled. 'Julius introduced himself and Newbigin, both of whom were engineers, and Rivett, a chemist, as "two bloody plumbers and a pill roller," ' a phrase which has since gone down in CSIRO's history.

Dr Dickson's Division was to be located in Canberra. 'I told the Executive that it was a mistake to put me there. The idea of having Canberra as a national capital was inspired thinking, but it was then full of dust and politicians. It was dangerous to have me, a scientist, in a position where these politicians would come talking to me instead of to the Executive in Melbourne.'

What happened was, according to Dr Dickson, totally predictable. 'I used to play bridge with many of them and they would ask my opinion on various proposals. Always, of course, with a promise not to mention my name in any subsequent action.'

And being the man he was, 'B.T.' was never frightened of giving an opinion.

'Government House was like a second home to me. I remember one day the Governor General, some of the politicians and I walked over to Yarralumla with the American Ambassador and sorted out a place for the new American Embassy.....'

Dr Dickson was closely associated with the development of University College, later the Australian National University, and because of this, his role in the establishment of the Botanic Gardens and his CSIRO activities on Black Mountain, the authorities named the road that links the ANU with Clunies Ross Drive at the foot of Black Mountain after him.

It was Dr Dickson who selected the Black Mountain site for CSIRO.

'Sir John Butters was then Commissioner for Canberra,' he said. 'He told me to meet him one day and he'd show me some land. He took me to a quarry and I promptly told him I'd have nothing to do with it. I wanted a square mile of land near the university grounds at the foot of Black Mountain. I got it.'

In his first months as Chief, Dr Dickson worked in Sydney. 'I was ordered to go to Canberra once a fortnight to supervise the building of the laboratory. It was a long train trip in those days. None of your 30-minute flights like we have today.'

Dr Dickson recalled the early days of his time as a Chief. 'A few of us thought we should have more say than we were getting in organising our own research. I had a talk with the Executive about this and told them how we felt. I said they were going to have a body of Chiefs around them as the Council grew bigger and that we wanted more autonomy.

'Julius told me bluntly to mind my own bloody business and to tell my colleagues to do likewise,' Dr Dickson recounted. 'The upshot of that was a meeting of Chiefs and Officers-in-Charge of Sections. I was put in the chair. The Chiefs have been having meetings ever since.'

For all that his Division was to achieve while he led it—he retired from the position in 1951—Dr Dickson always rather regretted that he became more of an administrator and less of a researcher.

'I came to Australia full of ambition for my scientific career. I got caught up in a depression, a war and responsibilities I had not initially sought. Nothing was easy, money was hard to come by and time for my own research was limited.'

Following his retirement, Dr Dickson played an important role in the formation of the international Arid Zone Advisory Committee and became its first chairman. He regards his work for Australia in this field as possibly his most significant contribution.

Today he lives by himself in a flat at Cronulla overlooking the sea. He enjoys just looking at the water, tending his plants on the balcony and painting. When he feels like reading he has his 'bibles' alongside him...the latest numbers of 'Scientific American' and other professional journals.

When he returned to Canberra, for the plaque ceremony, he was given a special welcome back to Head Office by the Chairman, Sir Robert Price, and old colleagues. He was also guest of honour at a small dinner party given by the present Chief of the Division, Dr Lloyd Evans with some other Canberra identities with whom he had long been associated.

In 1949 a group of VIPs gathered at the foot of Black Mountain in Canberra to plant the first two trees of the Botanic Gardens.

In this photograph taken at the ceremony Dr B.T. Dickson is seen third from the left. Fifth along is the Director of the Royal Botanic Gardens, Kew, Sir Edward Salisbury, next to him is the Chairman of CSIRO, Sir Ian Clunies Ross, while the Prime Minister, Mr J.B. Chifley, is about to plant a tree. On the right is a former Chief of Tropical Crops and Pastures, Dr J. Griffith Davies, while behind the spade is Dr J. Melville, a member of the Executive.

CSIRO has always been very much aware that its whole structure depends on the quality of the people it employs. CSIRO is, in fact, people .... people who do the research, people who support them.

In this issue of 'Coresearch' it has not been possible to tell many of the stories of the personalities involved in the Organization but in a jubilee year, everyone is conscious of the contributions made by early members of the staff and those who are now retiring after long service.

On this and the next page are accounts of the work of a very small group of people who have given much of both their professional and private lives to the Organization.

Old boys' club

Mr Perc Larkham of the Division of Plant Industry recently retired from the Organization after 35 years of service. Perc first worked at the Division's experimental farm at Duntroon, then transferred to its Dickson farm which was established when Duntroon closed in 1942. He subsequently moved to the Ginninderra Station where he continued to work until his retirement.

For many years Perc had responsibility for the management of experimental stock, a field in which he became quite expert.

At a farewell function Perc got together with some of the former and present Black Mountain personalities from left: Dr Pat Calvert (appointed 1929, retired 1956), Mr Frank Hely (1935), Mr Perc Larkham (1941), Mr Barry Flint (1939) and Dr Milton Moore (1938). All five worked together in the early days of Duntroon.

Picture: Colin Totterdell

Phil Knuckey retires

One of the latest officers to have his file closed is Phil Knuckey who was the Organization's Registrar. In his fiftieth year of service with CSIRO, Phil was attached to CILES at 314 Albert St.

He joined the Council away back on 17 January 1927 at the tender age of 14.

After serving a number of years as Divisional Clerk of Animal Health, Parkville, Phil returned to Albert Street and led the Head Office Correspondence Records Section for many years.

Many of the present day administrators of the Organization serving around Australia received their early training under his direction.

However, Phil is perhaps better known for the role he played as Registrar assisting most Divisions to organise their Divisional records—administrative and technical—to provide an essential service to research workers.

He started his herculean task in 1958, travelling widely around Australia and becoming one of the best known officers.

He will be long remembered as the installer of the 'Knuckey System' of filing which will no doubt remain with the Organization for many years to come.

Phil Knuckey

He was keenly interested in all sports, having played cricket to the 'veteran' stage, and was always associated with sporting activities of CSIRO in Melbourne.

Phil was farewelled at a function held in Melbourne, when more than 100 fellow officers and friends from many offices and laboratories, paid tribute to his contribution to the Organization, and the friendships created during his 50 years with CSIRO.

74-year old Chief still works at Food Research labs

On the second day of its first meeting in 1926 the Executive of CSIR drew up a list of 'the urgent and promising' lines of investigation on which it considered immediate scientific effort should be concentrated.

One of those subjects was food and its storage, with particular emphasis on the problems of cold storage.

From that beginning has grown one of CSIRO's largest—and oldest—entities, the Division of Food Research which today has laboratories in four States with its headquarters in North Ryde, Sydney.

Throughout its long history, the Division has only had two Chiefs—Dr J.R. Vickery and Mr Michael Tracey—and perhaps what is even more unusual, their first Chief, Dr Vickery, is still very much in evidence.

Even though he officially retired in 1967, Dr Vickery, now 74, still comes into his office at the Ryde Labs most days of the week.

A reserved man not given to talking very much about his personal contribution to research, Dr Vickery's own story is nevertheless bound inextricably with the achievements of the Division, now a major Australian centre for research studies in food science and technology.

His association with the Organization goes back even further than CSIR, for at one time he was a student of David Rivett at Melbourne University. He also did some post-graduate biochemistry investigations for the Institute of Science and Industry.

When the Council was formed it initiated a system of scholarships for young Australian scientists to receive further training overseas. Jim Vickery by this time was on an 1851 Exhibition Scholarship to study in the UK, but since he was seen as a potential CSIR officer he was given an additional grant of £50 a year to 'loosely tie' him to the Council.

He completed his studies at Cambridge and Liverpool and then undertook some investigations for Britain's DSIR into the problems associated with New Zealand's frozen meat industry.

In 1931 he was offered a position with the Council on a full-time basis and returned to Australia to be given the task of surveying the country's food industry and of drawing up plans for research related to it.

The Queensland Meat Industry Board offered to build new premises at Cannon Hill for the Section of Food Preservation (as it was called until 1940) to study the export of chilled meat to the UK.

'At that time our meat was all exported in a frozen condition,' Dr Vickery said. 'Its appearance was unattractive and the price that we were getting for it on the wholesale market, 3d a lb, compared unfavourably with the 4½d that South American chilled meat was fetching.'

For the next six years Dr Vickery and his team worked to devise techniques that would change the situation.

With only a modest budget but a lot of energy and foresight he came up with a set of recommendations. These were adopted by industry and in 1938 26,000 tons of chilled beef left Australia, about one third of the country's total beef exports.

While all this work had been going on, Dr Vickery had begun research on other food products, particularly fruit, eggs and the preservation of fish.

At the time industry was concerned about the wastage of shell eggs which often proved to be rotten when they were distributed in Britain.

Many people had theories but there were few facts. Dr Vickery organised some experiments and their results left no doubts—the cause lay on the poultry farms in Australia, not in Britain.

Dr Vickery and his colleagues working with the Egg Producers' Council and local investigation groups made detailed studies and developed measures for preventing the wastage.

This work was the start of Dr Vickery's association with egg research, a long-standing project which remained one of his major interests for many years.

In May 1940 the status of the Section was raised to that of a Division and Dr Vickery was appointed its Chief.

At this time, there were important changes in food research brought about by the wartime needs of the country.

The Division was instrumental in devising ways of dehydrating and canning food for the armed services and food specifications were prepared for Government departments.

It's been said that when this era came to an end, Dr Vickery became 'like the conductor of a small orchestra. He wanted to play and augment more difficult works.'

His actual aim was to develop a multi-disciplinary laboratory for research on the storage and preservation of food, an objective the Division has continued into the 1970s.

Throughout his career Dr Vickery worked closely with the State Departments of Agriculture and other related bodies, convinced that cooperation was essential. He has also believed in the multi-disciplinary approach of Divisions within CSIRO and feels that any new management of CSIRO must have people who understand and practise this.

'The size of the organization doesn't matter at all so long as its management is properly run,' he commented.

In a reminiscent mood Dr Vickery will talk a little about the 'old days' when money was hard to come by and conditions were tough.

'Even a Chief would be on the mat for an unnecessary expenditure of 5/-,' he said, 'and I recall the time when H.P. Breen, chief clerk and accountant, carpeted the Chief of Forest Products, I.H. Boas, for buying ink for his fountain pen. He was told to supply his own.'

He can also well remember how Dr B.T. Dickson, the first Chief of Economic Botany, took over the chair at the initial meeting of

Dr J.R. Vickery

Chiefs and Officers-in-Charge and how he had told the Executive of their thoughts on the management of the Council.

'You might say that the Executive did not look on the advice of the Chiefs with favour,' Dr Vickery said.

Today Dr Vickery likes to come into his old office at the Ryde Laboratory and work on investigations that he still wants to complete.

He is also involved with the National Health and Medical Research Council and is working on the draughting of legislation for food regulations.

Even though food research continues to be his greatest interest, there are times when he turns his back on it all.

'I have a property at Stratfield and a beach cottage,' he said, 'and it's there that I indulge in my other interest—growing native Australian plants.'

Review Committee

Continued from page 3.

Mr Madigan joined the Zinc Corporation at Broken Hill and occupied a number of positions there until 1959, the time being broken by a two year study period in the United States and Canada.

After his transfer to Melbourne he became General Manager of the CRA Group's Mineral Sands, Timber and Rum Jungle Operations, and later Executive Director of TAZI, Heron's Creek Timber Mills and Mary Kathleen.

He was General Manager, General Mining Division, for a period before being appointed Commercial Director, later Managing Director of Hamersley Iron, in 1965.

Mr Madigan was appointed a Director of CRA in 1958 and since then has held offices in a large number of mining interests.

He is also a Councillor of the Australasian Institute of Mining and Metallurgy, is an Executive member of the Pacific Basin Economic Council, and a member of the Trade Development Council.

Early reports wanted

CILES staff are trying to locate some additional copies of the old annual reports produced by CSIR. The ones most urgently needed are the 8th (1933-34), 14th (1939-40), 15th (1940-41), 19th (1944-45), and 20th (1945-46).

People who may be able to assist are asked to advise Mrs E.W. Anderson, CILES, 314 Albert Street, Melbourne.

New CSIRO history to be published

A new official history of CSIR/CSIRO is being written by two members of the staff of Monash University, Dr Boris Schedvin and Dr Keith Trace. The work has been commissioned by the Organization.

Research work is expected to continue for another two years and as yet there is no definite date for its publication.

One of the first steps taken once the decision to appoint the authors was made, was to co-opt Miss Carolyn Williams from the Head Office staff as their research assistant. Since July last year Carolyn has been delving into many records for the historians.

The book will cover the period from the events leading up to the formation of CSIR to possibly the year 1969.

The book will set out to look at how the Organization has affected the character of economic development and the pattern of scientific research and training in Australia, its achievements and its failures.

Material for the chapters up to and through the war years has been gleaned from Head Office archives and from a number of Divisions, particularly the oldest ones.

Other sources of information have been early personalities who have been interviewed. These have included Sir George Currie who with Mr John Graham of Head Office wrote 'The Origins of CSIRO.'

The authors are adopting a Sherlock Holmes approach towards specific scientific problems, looking at the why and how of research and the results. It is hoped that this will produce a history that will attract the attention not just of the scientific community and historians but also of the reading public.

Don Wark- one of the saviours of tobacco industry

The retirement of Mr Don Wark from the Division of Plant Industry marks the end of an era in CSIRO. For some time he was the only officer actively engaged in tobacco research, work which had been going on since the beginning of CSIR, although the major effort on it was officially terminated some time ago.

Earlier and widely acclaimed research in the Division by Dr H.R. Angell led to the discovery of an effective method of controlling blue mould in tobacco seed beds. However, this still left the adult crops exposed to the disease and frequent failure in the field was not uncommon.

Don began work in the Genetics Section in the mid-fifties after earlier work on vegetable research. He soon saw the breeding of resistant varieties as the only solution to the industry's problems, though no sources of genetic resistance to the mould had been found in an earlier survey.

He located such sources of resistance in many native species of tobacco and then began the long process of transferring this genetic resistance to the predominant strain of the pathogen (APT1) into cultivated tobacco.

This required the use of novel techniques but the result of his work was the release by the Division in 1969 of two varieties with resistance to APT1. These varieties, Sirogo and Sirone, now occupy more than 80 per cent of the area under tobacco in Australia.

Don was to realise, however, that following the release of these varieties, the minor strain of the pathogen (APT2) was likely to build up quickly.

He therefore initiated the transfer of resistance to this strain of blue mould from yet another wild species of *Nicotania*. As a result he now has advanced breeding material of high quality ready for general release in good time to meet the increasing prevalence of APT2.

His forward-looking and effective research has undoubtedly saved the Australian tobacco industry a second time.

Over the years, Don maintained close cooperation with State department personnel concerned with tobacco as well as with the growers. Moreover since blue mould has, in recent years, ravaged tobacco crops in Europe, Africa and the Middle East, his plant breeding materials have been widely sought to save this

Don Wark

major cash crop in those areas.

Though he is now in retirement, Don will continue to retain a close association with the industry as he has agreed to act in a consultative capacity for the Victorian Department of Agriculture.

Plaque ceremony

Continued from page 2

CSIRO had made to Australia's primary industries, Mr Roberts said that it was the high standard that was asked of and received from the staff that made CSIRO the great Organization that it was.

He also referred to the great foresight which had enabled CSIRO scientists to carry out research in anticipation of problems that would develop.

As one example, he cited CSIRO's work on objective measurement of wool which was completely revolutionising the handling and selling of wool.

'I don't know who had the crystal ball,' he said. 'I thought I'd found one up here at Head Office one day and I looked into it. I thought "By jove, I'll see something of the future", but all I could see was the Chairman and the Secretary upside down at the other end of the room.'

Mr Roberts said that although he did not suppose he would be around for the one hundredth anniversary of CSIRO, science was a 'pretty wonderful thing and I live in hopes'.

Mr Zeidler said that he had found a great warmth of support for CSIRO among his industry colleagues and that the mining, metallurgical and manufacturing industries of Australia had considerable confidence in the great capabilities of what was a unique scientific organization.

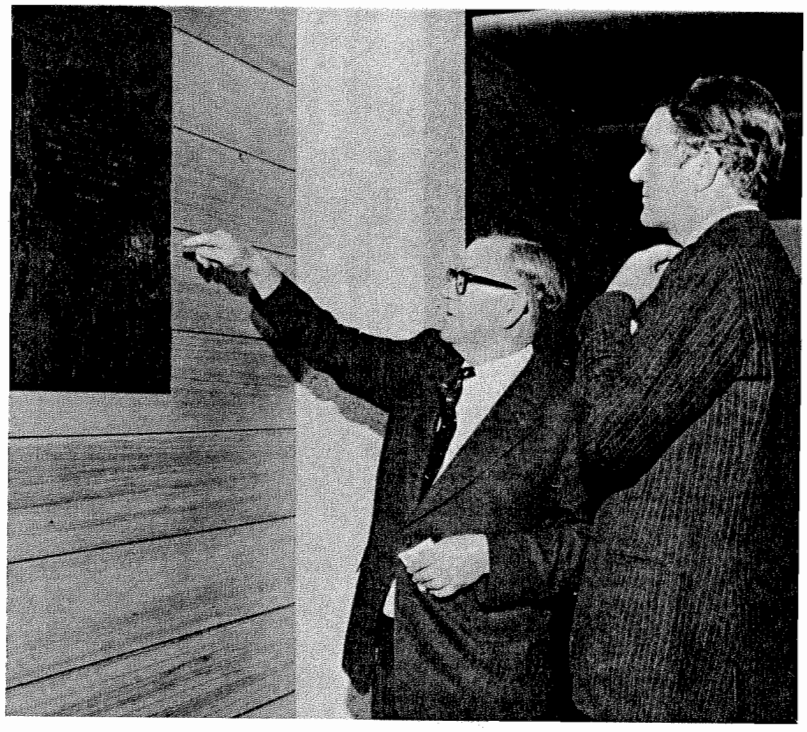
Nevertheless, he believed that CSIRO received all too little public understanding and appreciation for what it did.

By and large, CSIRO scientists were not particularly good at promoting themselves and the work they did, and a greater effort should be made in that direction.

'If people in a research organization feel success, then it will be successful', he said.

Mr Zeidler went on to say that while it was natural to concentrate attention on the outstanding successes of CSIRO, there was another very important aspect to remember and that was the continuing day-to-day spin-off that resulted from the exchange that went on between research workers in industry and research workers in CSIRO.

Mr Zeidler concluded that one of the most urgent needs in Australia today was to find more effective ways of bringing to bear on the productivity of manufacturing industry, the very great strengths which CSIRO had.



The Prime Minister, Mr Malcolm Fraser, and the Chairman, Sir Robert Price, take a look at the plaque.

Photographs by AIS and John Wedlick

Royal Society sends greetings for jubilee

Warmest greetings for CSIRO on the occasion of its jubilee have been received by the Chairman, Sir Robert Price, from the President of the Royal Society, Lord Todd.

'I am reminded that the process that led to this event was to some extent stimulated by representations made by a deputation to the British Prime Minister in 1915', Lord Todd wrote.

'The leader of the delegation was Sir William Crookes, then President of the Royal Society and he presented a document on the development of chemical industries in Britain which the outbreak of war with Germany had shown how seriously behind Germany we had fallen. The representations were quickly followed up on a broader basis and the UK DSIR was formed in 1915.

'This pattern for the support of research soon found favour in Australia and in due time CSIR of Australia was formed. A similar development took place in New Zealand.

'The Royal Society thus seeks to rejoice with you at the celebration of your jubilee.'

Dr Helen Newton Turner, now a CSIRO Honorary Research Fellow, and Dr Ian Mackerras, one of Australia's distinguished entomologists and formerly of the Division of Entomology, enjoy a few moments together.

Management changes in northern labs

Changes in CSIRO's research program in northern Australia are being made as a result of the creation of the Division of Animal Production.

The re-organisation will mean that officers in central Queensland previously working on programs developed under the Division of Animal Genetics will now be responsible to the new Division which has its headquarters at Prospect, NSW.

The position of Officer-in-Charge of CSIRO's Tropical Cattle Research Centre in Rockhampton will cease to exist under the new scheme.

It will be replaced by the position of Assistant Chief of the Division of Animal Production.

This officer, to be located at Rockhampton, will assist the Chief of the Division and advise program chairmen with planning and developing research programs directed towards improving the efficiency of livestock production in northern Australia.

The former Officer-in-Charge at Rockhampton, Dr J.E. Vercoe, has expressed a preference to resume full-time research at the Centre as a Senior Principal Research Scientist. He said he felt he could serve the industry better in this role.

Dr Vercoe will concentrate on breed differences in feed utilisation and adaptation and their important to efficient beef production.

Pending the appointment of the Assistant Chief at Rockhampton temporary responsibility for the Centre will be taken over by Mr A. Packham, the Manager of CSIRO's National Cattle Breeding Station at Belmont.

Electrician comes up with new device

When the Electrical Section of the Division of Chemical Technology vacated its small and cramped old electrical shop to move into new premises, Herbert Wessley, (right) the Officer-in-Charge of the Section, designed a new and comprehensive test board.

This caters for most of the day-to-day requirements of electrical testing and maintenance at the Division's headquarters in South Melbourne.

While Herbert does not claim that the board is equipped with everything an electrician could wish for—after all funds were not unlimited—it incorporates supplies for extra low voltage in both AC and DC, variable voltage up to 260 volts, fixed voltage both in 240 and 415 volts (the latter in three phase).

In the last two ranges testing can be carried out via ammeters, wattmeters and also via a core balance detector which shows any leakage to earth.

Fluorescent tubes and incandescent lamps with different sockets can be checked as well as appliances with most of the common shapes of plug tops.

Sections of CSIRO as well as private firms have shown interest in the design.

Specifications and drawings will be available shortly. The design is adaptable to varying requirements. Staff who would like further information should write to Herbert care CSIRO, Division of Chemical Technology, PO Box 310, South Melbourne, 3205; or phone 69 7661 Ext. 242.

Herbert Wessley

Jubilee open days

Nowendoc is a small country town in northern New South Wales. Thirty children go to its school.

When the Pastoral Research Laboratory of the Division of Animal Production held its open days at Armidale all 30 of them were packed into cars and driven the 80 miles to the research station so that they could take advantage of the opportunity to see what goes on at such an establishment. With them went 19 of their parents.

The children—and the adults—had a marvellous day. They spent time seeing what happens in a shearing shed, they looked at three-day old quadruplet lambs, a set of triplet lambs and twin calves, all part of experiments the Division is making into high fertility in such animals.

Along with hundreds of other Armidale children, they saw why they should wash their hands if they had been touching dogs—members of the staff showed them some of the parasites and diseases of animals and if they weren't already aware of why they should observe good hygiene habits, the impression it created would probably last for the rest of their lives.

The children also saw a working model of the way shelter affects the environment of pasture animals, learned about the devastation caused by locusts and were able to see different display species of the insects.

The end product of some farm animals was seen in the meat laboratory when whole carcases were hung to demonstrate the kind of meat the consumer wanted and how unacceptable meat could be avoided.

Working models of the Self Twist and Selfil spinning machines were demonstrated by Stan Boston of the Division of Textile Industry at Geelong and garments made from Selfil let them see the new developments in the textile industry, another of the end results of research.

And if the children could not identify the differences between different kinds of sheep, there were a number of pens each containing different breeds which allowed them to make a live comparison for themselves.

Diverse interests

Like hundreds of others who visited the station during the three days, the Nowendoc children crowded into the computer room and became fascinated with a chance to sit at the machines and operate them.

As if that wasn't enough for them, there were agricultural films and an audio visual presentation, 'CSIRO: the first 50 years' for them to see.

They were also able to visit the library and see how mathematics and statistics are used in research work.

In planning the open days the staff gave a great deal of thought to the wide range of interests they would be catering for. This went from tiny tots who went away happily clutching a small plastic folder of 'Chiswick' wool to adults who could buy 'Chiswick' wool ties.

It took in the many primary, secondary and tertiary students in the area, with the specialised interests of those at the School of Rural Science at the University and at the Teachers' College.

The interests of the adults were equally diverse, depending on whether they came from the town community or the rural districts.

Many of them took the time to go on the conducted tours of the experimental areas where they were able to see long term effects of varying rates of superphosphate applications, experiments in fodder conservation which might have a role in drought feeding, the effects of shelter on lamb mortality, the transference of plant nutrients by sheep from the pasture to their camp sites, grazing management strategies which reduce insect damage to pastures and increase sheep production, and experiments which show why it is necessary to measure how much pasture is eaten by sheep.

One of the most pleasant aspects of the open days was the relaxed atmosphere in which they were held.

Members of the active Social Club cooked hundreds of steak sandwiches, barbecued hundreds of sausages, made thousands of cups of tea and coffee and poured unlimited quantities of soft drinks for thirsty children. The drinks were all free but profits made from the food will be used for additional staff amenities.

People stood around or eased their tired feet by sitting on bales of hay and talked to friends. Staff were on hand at all points to explain the work to them and a visitors' book signed by many people revealed how much it had all been appreciated.

A great many of those who took the trouble to sign the book recommended that the exhibits should be retained in the form of a permanent display and the Division is now considering making part of a new laboratory into such a centre.

Last year 'Chiswick' began a new era with the merging of the Divisions of Animal Physiology and Animal Genetics and became the Division of Animal Production.

The open days also brought to a close another historic chapter for the station for they marked the retirement of Bill Willoughby, the Officer-in-Charge of Armidale.

During the open days many tributes were paid to Mr Willoughby.

Farewell

At the official opening speakers who referred to his retirement and the loss his departure would mean to CSIRO and the district, included the State Member of Parliament, Dr David Leitch, the Chairman of the Animal Research Laboratories, Dr K.A. Ferguson, the Chief of the Division of Animal Production, Dr Trevor Scott, and the Assistant Chief of Animal Health, Dr W.H. Southcott.

Many more tributes were paid when an evening function was held at the University of New England in his honour.

Colleagues from the Division and from other areas of CSIRO met with people from the University and with representatives of other organisations to wish Mr Willoughby well in his retirement.

Hundreds at Parkville labs

The competition of the VFL Final and the Melbourne Show did not stop hundreds of people visiting the Animal Health Research Laboratory at Parkville and the associated field station at Maribyrnong when the Division of Animal Health staged its open days.

Large numbers of visitors to the Parkville Laboratory took advantage of the glorious weather and crammed the buses to Maribyrnong, where in an almost picnic atmosphere they were guided around the station.

On the Friday, there were organised visits by school children to Maribyrnong.

In the afternoon the Minister of Science, Senator J.J. Webster, officially opened the display before representatives of industry, CSIRO, universities and the Department of Agriculture, who were then given a preview of the various exhibits.

The displays at Parkville highlighted the great diversity of the research being carried out in the Division into diseases of economic importance to the livestock industries.

Two exhibits that created great interest were the plastic isolators containing disease free chickens and the display illustrating how butterflies and moths utilise compounds in plants poisonous to livestock.

At Maribyrnong visitors were able to see the animals used in research work, the conditions under which they were kept and how they benefited from research.

The success of the open days could be attributed to the extraordinary efforts of the staff of the Laboratory in producing displays of a high standard and in ensuring smooth operation on the day.

In fact, many of the staff demonstrated considerable artistic talent, with Mike Duffet's effort being worthy of special mention.

However, the entire Laboratory is grateful for the superhuman effort contributed by photographer Eric Smith.

His superb photographs have adorned many CSIRO publications and scientific journals and many of the displays at Parkville represented an exhibition of Eric's photography around which was wrapped the story of the research being undertaken.

Copies of 'Surprise and Enterprise', CSIRO's jubilee book, are still available from CILES at 314 Albert Street, Melbourne. The staff discount has been continued and copies still only cost $1.00.

Because this issue has been almost entirely devoted to the jubilee edition some copy has been held out. Every effort will be made to get this into the December edition.

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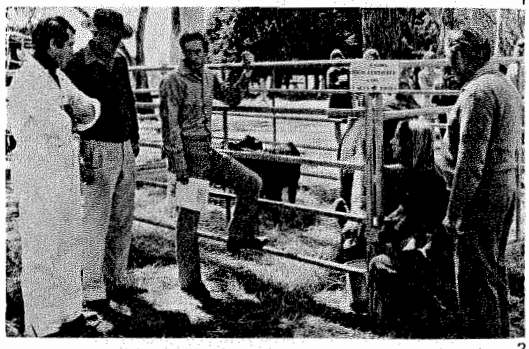

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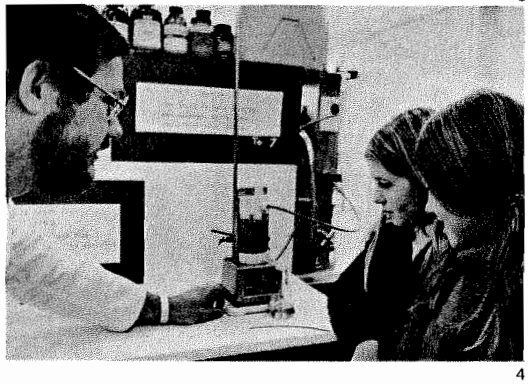

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1 John George shows children from Nowendoc some Booroola merino triplet lambs and their mother.

2 Bernie Binden (left), Michelle Cheers and Jimmy Elliott (right) talk to some Nowendoc parents about their work on the high fertility program.

Photos: Tom Dagg

3 Visitors at the Parkville Laboratory of Animal Health.

4 Two research chemists of the future learn the mysteries of a membrane filter from Neil Anderton.

Photos: Eric Smith

'Coresearch' is produced by the Central Communication Unit for CSIRO staff. It is also circulated to some people outside the Organization who have a professional interest in CSIRO activities.
Members are invited to contribute or send suggestions for articles. The deadline for material is normally the first day of the month preceding publication.
Material and queries should be sent to the Editor, Box 225, Dickson,A.C.T. 2602, Tel. 48 4477.
Editor: Dorothy Braxton
Graphic Designer: Brian Gosnell

Coresearch

A monthly publication for CSIRO staff

December 1976 211

ADMINISTRATIVE CHANGES MADE AT HEAD OFFICE

The Chairman of the Animal Research Laboratories, Dr K. Ferguson, and the Chief of the Division of Land Use Research, Dr R.J. Millington, have been asked to serve as Associate Members of the Executive for a period of 12 months.

The announcement of this and other changes at the Secretariat level were made last month by the Chairman, Sir Robert Price.

Sir Robert said the two Associate Members had been appointed to help alleviate the very considerable workload placed on the full-time Members of the Executive.

Dr Ferguson's appointment was effective as from 15 November and Dr Millington's as from 18 November.

During the next 12 months, Sir Robert said, the Executive expected the Organization would have heavy demands made on it for information for and submissions to the Committee of Inquiry into CSIRO.

The Executive had therefore asked Dr Millington to undertake the special responsibility of leading and coordinating the CSIRO input into the review.

Scientist

To assist with the workload that the inquiry would generate, a senior scientist with an appropriate background and interest, would be seconded to work with Dr Millington.

Mr David Kimpton, Officer-in-Charge of the Writing and Production Services Group of the Central Communication Unit, would also be seconded to work with him.

Dr Millington and his support staff would be located at Head Office.

'During the time Dr Ferguson serves as an Associate Member of the Executive, he will have a particular responsibility in agricultural and biological research areas,' Sir Robert said.

'Both Dr Millington and Dr Ferguson will participate in Executive meetings but as with Associate Members in the past, however, they will not have voting rights.'

Head Office changes

Sir Robert also outlined some additional changes at the Secretariat level which will apply for a period of about 12 months.

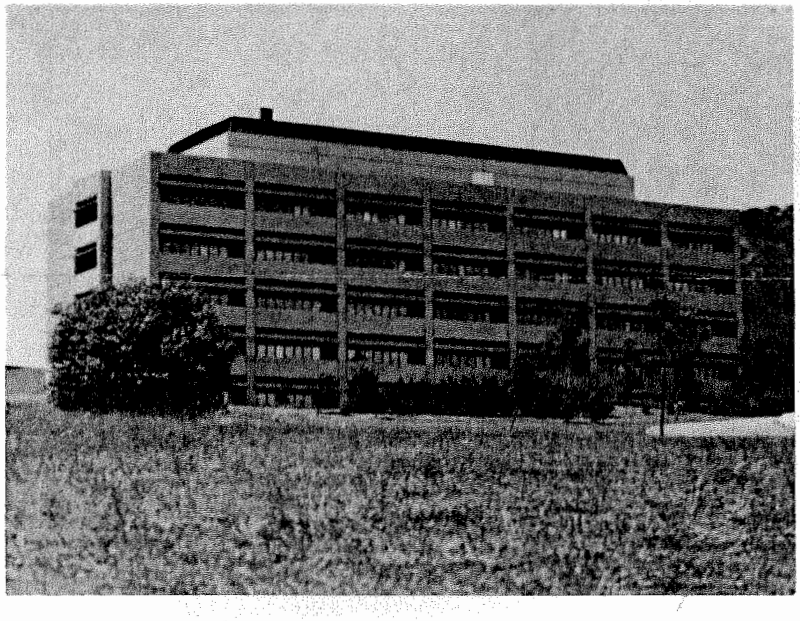
These included:

. the post of Executive Officer which had been advertised will be held in abeyance and no appointment will be made in the meantime. Mr L.G. Wilson, who has been acting as Executive Officer, has been given the temporary designation of Secretary and will be responsible for the effective operation of Head Office. Mr S. Lattimore, Secretary (Research) will act as his deputy.

. Mr J. Coombe, who was Acting Secretary (Administration) has been seconded from that position to assist the Chairman on a full-time basis. The formal position of Secretary (Administration) will remain vacant for the time being.

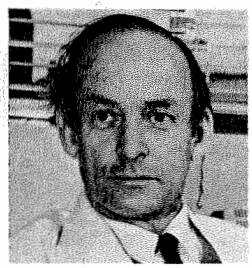
. Mr H.C. Crozier, the senior officer of the Administration Branch, will be returning in November from his secondment as Executive Officer of ASTEC. He will occupy his position as Senior Assistant Secretary (Finance and Properties), but he will be accepting additional responsibilities under Mr Wilson, particularly for the Administrative Systems Group and the work being carried out on future delegations.

. The Patents and Licensing activity under Mr P.A. Grant will return to the Science Branch. Mr Grant will be acting as a Senior Assistant Secretary of that Branch and will assume wider responsibilities.



Mr L.G. Wilson — Acting Secretary

Dr R.J. Millington — new Associate Member of Executive.



Dr. K. Ferguson - new Associate Member of Executive.

He's our top Apprentice

Ian Thomas of the Division of Applied Organic Chemistry has been awarded the 1975 Arthur Frost Memorial Award for the most improved final year apprentice in CSIRO.

This award, which is jointly sponsored by the Executive and the Laboratory Craftsmen Association, was first presented in 1974 as a memorial to Arthur Frost who was foreman in charge of apprentice training in the Division of Textile Physics and foundation NSW Secretary of the CSIRO LCA.

Ian was also awarded a Commonwealth Development Bank Post Apprenticeship Scholarship for 1976.

After completing his apprenticeship schooling he started a higher technicians' course. He is eager to complete this and to proceed to a Diploma of Mechanical Engineering.

Before joining CSIRO late in 1971 Ian was the top final year student at Preston Technical College. He was also awarded an honourable mention for craftsmanship in 1974 by the Victorian Apprenticeship Commission.

Ian makes final adjustments to a machine for plastics processing made in the Applied Organic Chemistry workshop.

CSIRO publications win honours in NIP vote

CSIRO's jubilee book 'Surprise and Enterprise' has won first prize in the booklet section of the 1975-76 National Industrial Publications competition.

Produced by CSIRO, it was written by Andrew McKay, a Melbourne journalist and illustrated by Robert Ingpen.

The editors were Sir Frederick White, a former CSIRO Chairman, and David Kimpton of the Central Communication Unit.

'Rural Research', CSIRO's quarterly, was commended in the magazines category in the same competition.

The magazine is produced by the writing group in the Science Branch at Head Office and designed by David Marshall of the Central Communication Unit.

Prime Minister visits P4 project in Indonesia

When the Prime Minister, Mr Malcolm Fraser, was in Indonesia recently, he included in his itinerary a visit to the P4 complex at Ciawi, near Bogor.

Mr Fraser, who had been the guest of President Suharto at the Presidential Palace at Bogor, was personally driven out to the site by the President, the two of them arriving in a Rangerover.

Following them in a bus was a group of distinguished people including the Minister for Foreign Affairs, Mr Andrew Peacock, and the Australian Ambassador to Indonesia, Mr Richard Woolcott.

During a leisurely tour of the complex, the Officer-in-Charge, Mr A.F. Gurnett-Smith, explained the aims of the project and the work that was already in progress.

Until about 15 years ago, Mr Gurnett-Smith said, most of the major scientific research programs undertaken in the tropics had been those associated with projects in which the industrial countries were interested.

Comparatively little had been done for the people of the tropical countries.

Then with the development of the International Rice Research Institute (IRRI) in the Philippines about 15 years ago, a move had started which led to the establishment of about nine research institutes, all geared to the needs of tropical people.

However, with the exception of one being built in Ethiopia, none had concentrated on animal husbandry, Mr Gurnett-Smith said.

For this reason, work being done at Bogor would be of international relevance as well as for the benefit of Indonesia.

Of the 43 buildings in the Centre's building program about eight of them were now available as animal houses. Some areas of research had already been started, he said.

It was hoped that by about January the animal houses would be completed and all the staff, some of whom were still working in houses in Bogor, would move out to Ciawi.

Little information

Since going to Indonesia, Mr Gurnett-Smith has found that little basic information exists on local animals and local feedstuffs.

In Canberra during a recent visit he spoke of some of the projects already under way.

These include problems associated with the lack of resistance to disease shown by imported fowls and ducks and what resistance the local birds have.

Mr Gurnett-Smith also described how they had gathered experimental ducks from three areas of the country. Some were from Tegal in Central Java, some from South Kalimantan where the ducks almost never set foot on dry land and where they were tended by people from rafts, and some from Bali.

'We showed the Prime Minister and the President one duck from Tegal that had laid 127 eggs in 125 days even though text books say that biologically this is impossible', he said.

'We had the eggs stacked in a basket for them to see—5½ kg of them from a bird weighing 1½ kg.

'And that was not an isolated bird. Others are also laying large numbers and several of them more than once a day'.

Duck eggs were not always popular with either Indonesians or Europeans, Mr Gurnett-Smith said, mainly because of their fishy taste and because cakes baked with them would not rise.

'To prove a point we organised a tasting panel. We fed people several kinds of food made from both kinds of eggs and neither Indonesians nor Europeans could tell the difference.

'Later we were asked why this had been so. Many of the ducks live in the padi fields and eat snails, tadpoles and other such food. This, we suspect is the cause of the flavour.

'When they are fed the same food as hens, their eggs taste similar'.

Before western ducks were imported the scientists wanted to look at the likelihood of breeding better birds from local stock.

'We'll investigate similar procedures with sheep, goats and cows', Mr Gurnett-Smith said.

Wastage of local animal foodstuffs would also be investigated. Little was known about local products such as bran rice, he said.

If fed to animals in large quantities it reduced the growth of chickens.

However, if it was treated with steam for 15 minutes and the toxic qualities were removed, the local people might save some of the high costs of imported goods.

An international project

A group of scientists from the International Livestock Centre for Africa (ILCA) in Ethiopia, watch the plane coming in to pick them up at the CSIRO Narayen Research Station near Mundubbera, Queensland. The group spent a day at the station discussing a wide range of research projects.

Australian Mr David Coates (fourth from left), Officer-in-Charge at Narayen, acted as host. Others in the picture from left to right are Englishman Professor Derek Tribe, Professor of Animal Production, Melbourne University, and a member of the ILCA Board of Trustees; Mrs Tribe; Mrs Temple; New Zealander Dr John Tothill, Principal Research Scientist, CSIRO, Division of Tropical Crops and Pastures, Brisbane; Ethiopian Dr Shenkute Tessema, Assistant to the Director of ILCA; Frenchman Dr Henri Le Houerou, Head of the Ecology and Environment Section at ILCA and American Dr Bob Temple, Head of Animal Sciences at ILCA.

Mr Sam Lattimore (above) has been appointed Secretary (Research). He has been acting in this capacity during the last few months since Mr A.F. Gurnett-Smith was appointed Officer-in-Charge at the P4 project in Indonesia.

Conference set down for May

The Australian Radiation Protection Society will hold its second conference from 16-18 May.

Offers of scientific papers will be welcomed and inquiries about them can be made to Mr I. Leith, Australian Radiation Laboratory, 36 Lonsdale Street, Melbourne, Vic. 3000.

General inquiries about the conference should be made to Mr T. Tan, Physics Department, Monash University, Clayton, Vic. 3168.

Minister meets Staff Association

Picture: The Minister has a word with some of the participants: (from left) Graham Brown, (CSIROOA), Dudley Scullin (ACOA), Jack Ikon (CSIROLCA), Senator Webster, Mal Franklin (CSIROTA) and Gary McMorran (Fourth Division).

For the second year in succession a joint meeting of representatives of the CSIRO Staff Associations has been held in Canberra at Head Office.

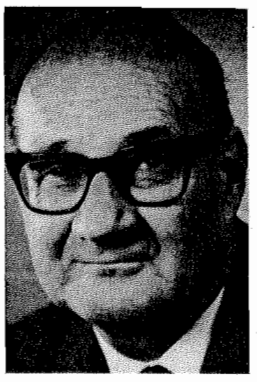
Representatives were able to discuss matters of mutual interest with the Chairman, Sir Robert Price, and members of the Executive and with representatives of the Secretariat.

These included the CSIRO management structure, staff ceilings, class of travel, voluntary early retirement, grievance procedures within CSIRO, and the Committee of Inquiry.

Associations indicated that they would each be making submissions to the Inquiry.

The Minister for Science, Senator J.J. Webster, made a brief appearance at the meeting and discussed with the representatives the matter of appointments to the Executive and membership of the Advisory Council.

Off to green pastures...



Dr Alf Anderson

Dr Alf Anderson, a world authority on plant nutrient deficiencies, retired in September from the Division of Plant Industry after 37 years with the Organization. He had been in charge of the Divisions's Plant Nutrition Section since 1946.

Alf joined the Division of Soils at the Waite Institute in 1939 and transferred to Plant Industry in 1946. His career was marked by a trail of research findings which have transformed the productivity of pastures in eastern and southern Australia.

He was the first person to recognise that many South Australian soils were deficient in the trace element, molybdenum. Later he found that soils in the Tablelands of Queensland and Victoria were often deficient in both molybdenum and sulphur. These discoveries led to dramatic improvements in pasture productivity, with Alf showing that as little as one ounce of molybdenum to the acre could spell success in the growth of improved pasture.

His work on nodulated clovers in improved pastures helped to establish the correct soil conditions for good clover growth. With his colleagues, he developed a technique for pelleting clover seeds with lime to correct high acidity in the soil around the young clover roots.

For his contributions to agriculture Alf was awarded the Australian Medal of Agricultural Science in 1956.

Radiophysics history displayed

The Division of Radiophysics has recently produced its 2000th scientific manuscript since it began open publication in 1946.

To mark the submission of Radiophysics Publication (RPP) 2000 the Division held a two-day display of its historically important documents, publications and photographs.

Prominent in the display were 'secret' wartime reports on the development of radar, papers on electron accelerators, the famous CSIRAC computer, transistors (before they became a household word) and navigational aids and, of course, on the beginnings of radio astronomy and cloud seeding.

It should perhaps be mentioned that the Division's Publication Section still serves its 'offspring', the Division of Cloud Physics.

Among the names on the documents were those of a later Chairman of CSIRO, Sir Frederick White, a present member of the Executive, Mr V.D. Burgmann, five chiefs of CSIRO Divisions, E.G. Bowen, D.F. Martyn, J. Warner, J.G. Downes and J.P. Wild, and at least 12 present-day professors at Australian and overseas universities (several of whom are deans of schools and one an acting vice-chancellor).

The program of a wartime laboratory concert had an interesting story attached to it. One of the persons auditioned for a singing role but rejected by the committee was the former CSIRO employee, Miss Joan Sutherland.

The many photographs of the throngs at Radiophysics parties of yesteryear and selections of humorous newsheets set people asking, 'Were we really as young as that?', and 'Why don't we have fun like that nowadays?'

The display was the result of furious activity on the holiday weekend by the Publications Section editor, Miss Marie Vickery. She was ably supported by her group leader Dr Jim Roberts and by section members, Mrs Diane Williams and Mrs Joyce Barnett.

People with an interest in science communication through the use of visual aids such as displays, overhead projectors and audio visuals attended a seminar and workshop in Canberra last month.

The conference was organised by the graphic designer of the Division of Land Resources Management, Mr Maurie Woodward, in response to a request from the Division of Forestry.

Forestry was interested in taking a closer look at the way LRM's Communications Unit was set up and how it makes use of visual aids to assist scientists and other members of the staff in their communication with various groups.

Among those who attended from the Division were scientists, technical and administrative staff.

At the same time other Canberra staff involved in science communication took advantage to get together at a workshop to discuss mutual interests and problems. Members of the Central Communication Unit were also present.

During the seminar, Maurie showed the audience some of the audio visuals made by LRM.

These, he said, had been used for a variety of purposes—as public relations exercises, to assist scientists when they were talking about their work and by the Division when it wanted visual background material to explain a potential research program to the Executive.

The workshop which followed was at Land Use Research, making for a greater interchange among the participants.

It is hoped that the scope of this first workshop will be broadened next year to include people from many other Divisions working in the same field.

Lab loses Librarian

Mrs Joan Hansen who has been a librarian with CSIRO for over 30 years, has left her position at the National Standards Laboratory in Sydney on long service leave, after which she will officially retire.

Joan, who is probably better known to many of the older members of the staff by her maiden name of Joan Cook, joined CSIR as a library assistant in 1945 on the grand salary of £202 pa, after transferring from the Radio Research Board.

Since then her career has followed the history of the Laboratory—through the change from CSIR to CSIRO, through the traumatic days when the combined libraries became two separate entities, the Radiophysics library at Epping and the National Standards library still in the old building on the Sydney University campus.

When this split took place early in 1968, Joan became the librarian of the National Standards Laboratory, later renamed the National Measurement Laboratory.

Joan married in 1973 and she and her husband, John, are seasoned travellers. In fact her long-service leave will be taken up with travels both in Australia and abroad.

It is hard for those who have known Joan over the years to imagine the National Measurement Laboratory without her. Through a number of decades, she has been an indefatigable and ever-helpful reference librarian.

In wishing her a happy retirement her friends and colleagues now have only one regret and that is she will not be the librarian when the library finally moves to the new Bradfield Park site, much of the initial planning for which Joan herself has done.

Quick...Quick..Slow...

Six months and lots of fun, haggling, negotiating and planning led up to the Canberra region's successful jubilee ball on 22 October.

The energetic Ball Committee decided to do things in a style befitting the occasion and hired all three floors of the Canberra Racecourse pavilion.

More than 800 people danced to three different kinds of music.

The choice ranged from a disco on the ground floor where a rock band kept people in a state of frenzy, to organ music for the 'sophisticates' on the middle level, to the top floor where old time favourites were available for those in a sentimental frame of mind.

Among the guests were the Minister for Science, Senator J.J. Webster, and Mrs Webster, the Chairman, Sir Robert Price, and Lady Price, and members of the Executive and Secretariat and their wives.

The Committee, drawn from Head Office, the RAO and the Canberra Divisions, was headed by John Warwick.

Alf bows out

Alf and his wife Madge, (second and third from left) making their selection from the sumptuous spread at the farewell held in their honour. Photograph: N.A. Prosser

When Alf Watson retired recently from the Forest Products Laboratory of the Division of Chemical Technology, the canteen was transformed to create a bistro atmosphere for 130 past and present colleagues who gathered to wish him a long and happy retirement.

Alf joined the Division of Forest Products, then based at East Melbourne, in 1933 when he was only 16 years old.

He was the recipient of the first Fellowship Diploma of the Royal Melbourne Institute of Technology where he had taken his Associateship Diploma in Chemistry.

During his long career he became regarded as a world authority on wood pulping and papermaking technology.

In 1975, Appita (the Technical Association of the Australian and New Zealand Pulp and Paper Industry, of which he is a past President and journal editor) presented him with its top award, the L.R. Benjamin Medal for his services to the pulp and paper industry.

This year, Alf was admitted to honorary life membership of Appita and is only the second member of CSIRO to gain this honour.

A prolific writer with more than 60 publications, Alf has not yet slowed down, even after retirement, for he is off to South America to present papers at the First Latin American Conference on Pulp and Paper at Buenos Aires.

John Lee retires

John Lee

The success of the Jubilee Symposium recently held at the Division of Human Nutrition in Adelaide was largely due to the untiring efforts and the organising ability of John Lee, who as convenor and chairman of the Symposium committee, performed one of his last official functions before retiring on 12 November.

To review the aims and achievements of the original Division of Animal Nutrition and its successors is in a sense also to review John's scientific experience.

In 1928, within a year of the Division's establishment, he joined the staff as a cadet. He retires as an SPRS.

John's lifelong interest has been in the aetiology, distribution and correction of trace element deficiencies in livestock, particularly copper and cobalt, and in the inter-relationships of these with other elements such as selenium and cadmium.

He made a major contribution to agriculture through his study of steely wool and coast disease at Robe in association with the late Hedley Marston and by his recognition of the more widely distributed deficiencies of both copper and cobalt throughout Australia.

His discovery of cobalt as a preventative for phalaris staggers in sheep and cattle and the development of the cobalt pellet as a ready means of supplying cobalt supplements to ruminants were also valuable contributions to the industry.

These were recognised by the award in 1972 of the Fellowship of the Australian Society of Animal Production.

John has developed a world wide reputation for his published work and has contributed extensively at various scientific conferences, both in Australia and overseas.

In retirement he hopes to travel—no doubt maintaining contact with his many friends around the world.

He will continue with his leisure time hobby of sampling dry reds, although it remains to be seen whether this will lead to further publication of his original thought in another field of interest.

Welcome spin off

G.W. Walls

Mr G.W. Walls, a Chief Research Scientist at the Division of Textile Industry, Geelong, has been awarded the degree of Doctor of Science of the University of London, England.

The award recognises Mr Walls' work in the field of physics, and more particularly his contributions to the theory and development of apparatus for converting assemblies of fibres into new yarn structures, the assessment of these structures and their applications, and his studies of the physical properties of fibres and fibre assemblies and their effect on processing.

Mr Walls was leader of the CSIRO team which developed the self-twist and rapid-spinning machines which are now manufactured by Repco Ltd and marketed worldwide by Platt-Saco Lowell Ltd.

Talk to the trees

Ten members of the staff of the Division of Forest Research have undergone a three-day course in public speaking.

It was requested by members of the staff who felt they could benefit from some tuition in the art of communicating with the public, talking to industry and special visitors, and speaking at seminars and lectures and to schoolchildren.

Those attending the course were drawn from the research, technical and administrative staff and the library.

The Head Office Training Section was responsible for the organisation and the leader was Mr Dick O'Brien, the training officer of the Australian Institute of Management.

Siroforum

Many people in CSIRO may be pondering the advantages and disadvantages of making supplementary contributions to the new Superannuation Fund.

Assuming that an individual has a surplus of income over his immediate needs and accepts that contributions to the Fund are locked away irrevocably until he ceases to be employed, his problem is to determine the relative merits of 'investing' in the Fund compared with other possible investments.

Supplementary contributions in the Fund earn untaxed interest until they are withdrawn, when tax is payable on five per cent of the capital sum plus interest.

Most other possible investments bear interest which is taxable in the year it is credited.

A decision on which is the better investment is not therefore a simple matter of taking the higher interest rate.

The enclosed table for which I am indebted to Mr H.G. David and Mrs S. Hewett of the Division of Textile Physics compares accumulation of $10 per day in the Super Fund with a similar sum in a Building Society at the various tax rates.

The dotted line indicates the minimum number of years at each tax rate when accumulation at nine per cent with a building society ceases to be better than accumulation in the Fund at the present rate of interest (7.364 rounded to 7.4).

From the table it would appear desirable to most contributors who are now two years away from retirement to reduce their supplementary contributions to zero and invest future savings in a building society or credit union instead.

For those on the bottom tax rate, they should act similarly when three years off retirement to maximize net gains.

It should be noted however, that if it is desired to purchase maximum additional pension, then the object would be to maximize Super contributions right up to the retirement, and this letter and table should be disregarded.

J.I. Platt
Divisional Secretary
Division of Textile Physics

COMPARISON OF ACCRUED CAPITAL

A $10 per fortnight contributed to Super
B $10 per fortnight contributed to building society

No. of years of contribution		Marginal rate of income tax (cents in the dollar) 27	35	45	55	60	65
1	A	266.58	265.50	264.15	262.80	262.12	261.45
	B	269.75	269.28	268.68	268.08	267.78	267.48
2	A	553.61	551.36	548.56	545.75	544.35	542.94
	B	557.63	554.66	550.96	547.27	545.43	543.59
3	A	862.65	859.15	854.78	850.41	848.22	846.04
	B	864.85	857.12	847.53	838.02	833.29	828.59
4	A	1195.39	1190.54	1184.48	1178.42	1175.39	1172.36
	B	1192.70	1170.66	1159.10	1140.80	1131.74	1122.76
5	A	1553.64	1547.34	1539.47	1531.60	1527.66	1523.72
	B	1542.77	1517.37	1486.43	1456.11	1441.17	1426.39

Interest was calculated as follows:

A Superannuation interest 7.4%.
5% of accrued capital taxed when the principal is withdrawn on retirement.
B Interest in building society 9.0%.
Simple interest for 26 weeks, compounded twice yearly; withdrawal yearly to meet tax on interest.

Examples

If an individual whose marginal rate of taxation is 45 cents in the dollar contributed to the Super scheme for 1 year at $10 per fortnight, the accrued capital would be 264.15 c.

If the same individual contributed $10 per fortnight to a building society, the capital accrued after 1 year would be 268.68 c.

That is, he/she would be better off with the building society by 4.53 c.

However, if he contributed to the Super scheme at the same rate per fortnight for 3 years, the accrued capital would amount to 854.78 c.

If he contributed to a building society at the same rate, the amount would be 847.53 c, that is a difference of 7.25 c in favour of the Super scheme.

BIT O' TROPPO AGGRO

What's in a name? Plenty, if one is to believe a recent Bulletin from the Cunningham Laboratory in Brisbane. Says that august publication: 'No longer is there a Division of Tropical Agronomy... following a decree from the wise men of the south changing the name to the Division of Tropical Crops and Pastures, abbreviated CRAP.'

LOGOS

In response to the suggestion made by Graeme O'Neill on the idea of a logo for CSIRO, I offer a rough draft as an example of what could be designed.

The ideas I have tried to convey are those expressing CSIRO's major fields of research as I understand them...animal, agriculture and industry.

I have added to these four other symbols, not so much to show major areas of interest of CSIRO, but to show the wide scope of interests...atmosphere, oceanography and entomology.

As few people understand the work done by CSIRO, I think the logo should be more descriptive than that suggested by Graeme O'Neill, so a microscope has been included to cover industrial research.

The pointer on a scale is intended to cover our measurements and standards. Perhaps the symbols could be reduced to three.

Don Benjamin
NML, Sydney

Let's keep it straight. I find logos basically objectionable in that most aim to impress by confusing. The public already recognises the letters 'CSIRO' and would, I feel, appreciate a less pretentious approach more in keeping with the objective nature of our work.

I would suggest red for the letters 'CSIRO' about 4 cm high above a divisional identification line in smaller letters.

Divisions could choose their own colour for this line.

A range of colours would indicate the spectrum of CSIRO activities and give individuality.

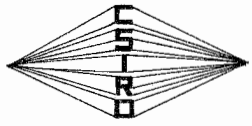
Simple transfers on a clear background would suit most vehicle colours. Let's not add to visual pollution.

Neil Thomas
Textile Physics, Ryde

CSIRO
TEXTILE PHYSICS DIVISION

After much consideration I have designed a simple symbol for CSIRO. The design is black with a white background. It is, I feel, a dynamic logo representing the forward thrust of CSIRO.

L.F. Cross
Textile Physics, Ryde

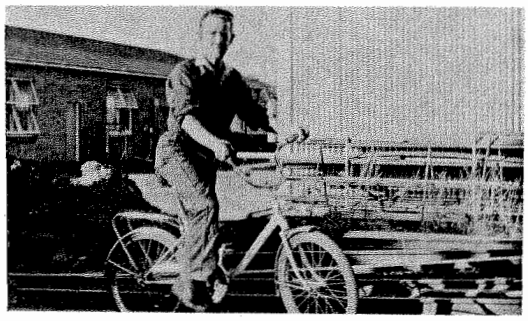


Visitor

The Division of Animal Health will have a distinguished young visitor at its Parkville Laboratory for two years from next month.

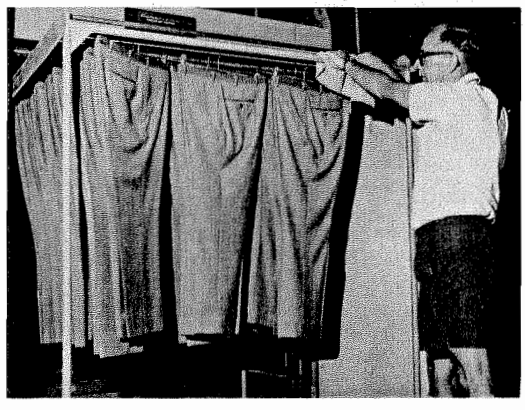
He is Dr D.B. Archer of the Department of Biochemistry, University of Cambridge, who has been awarded a Florey Fellowship by The Royal Society.

While he is with CSIRO Dr Archer will work with Dr A.W.D. Rodwell.



Senior Lab. Craftsman Joe Strong shows how he combines keeping fit, beating the energy crisis, and getting around the Cooper Laboratory of the Division of Tropical Crops and Pastures at Lawes, near Gatton. Joe is located at CSIRO's oldest Queensland establishment which dates back to 1930 when the Queensland Agricultural College at Lawes first allotted land for pasture plant introduction studies. Joe asked for this bike to allow him to quickly reach field installations such as a new rain-out shelter 2 km away from his workshop.

Science at work



That's one giant step for science, and 27 small strides for men.

safety notes

Failure of automobile brake pipe

When fitting ancillary equipment to a vehicle, careful consideration must be given to the type of vehicle and its probable use.

A Landrover was ordered which was to include the fitting of a power brake booster to the vehicle before delivery.

Copper tubing was used to incorporate the unit into the standard brake system of steel tubing. The ancillary tubing was so fitted that it could vibrate and was located between the radiator and front crossmember of the chasis. The tubing rubbed against the crossmember, and was worn so thin that when the brakes were applied the tubing ruptured with a consequent loss of braking.

To avoid this type of mishap, securely attach brake lines to solid parts of the vehicle free from movement themselves and wear from other parts of the vehicle moving against them.

J.W. Hallam
Safety Officer

'Coresearch'

'Coresearch' is produced by the Central Communication Unit for CSIRO staff. It is also circulated to some people outside the Organization who have a professional interest in CSIRO activities.

Members are invited to contribute or send suggestions for articles. The deadline for material is normally the first day of the month preceding publication.

Material and queries should be sent to the Editor, Box 225, Dickson, A.C.T. 2602, Tel. 48 4477.

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