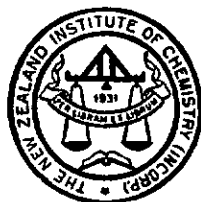
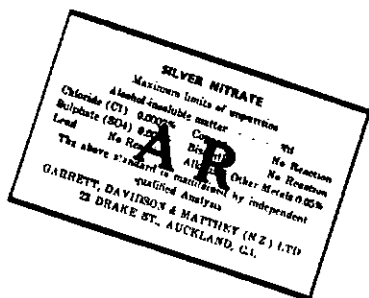
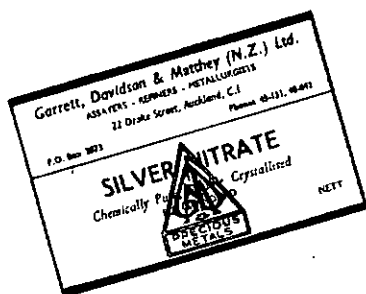


# JOURNAL OF THE NEW ZEALAND INSTITUTE OF CHEMISTRY

Vol. 27:      No. 6  
December,    1963

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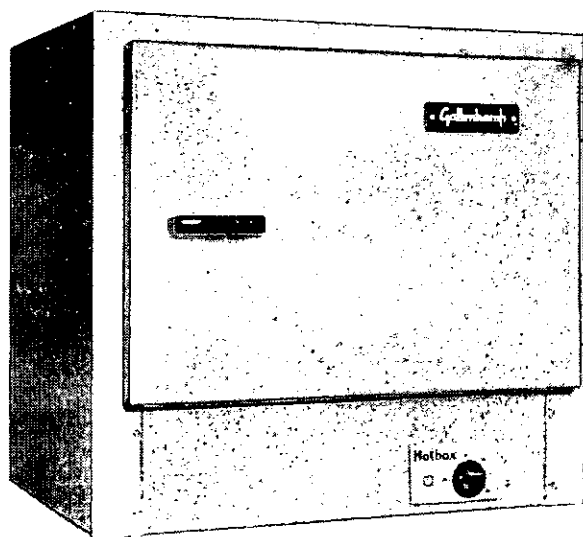
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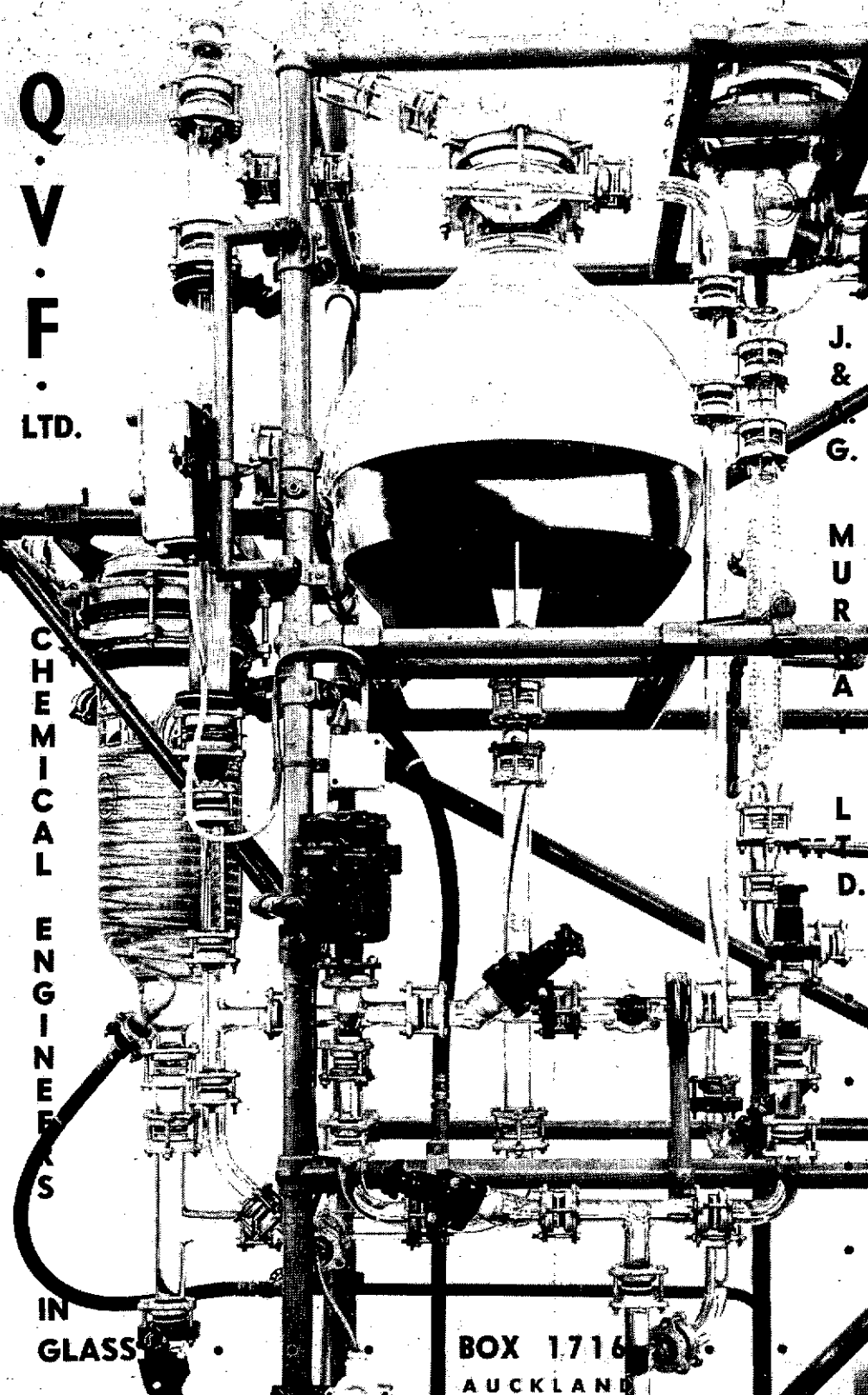
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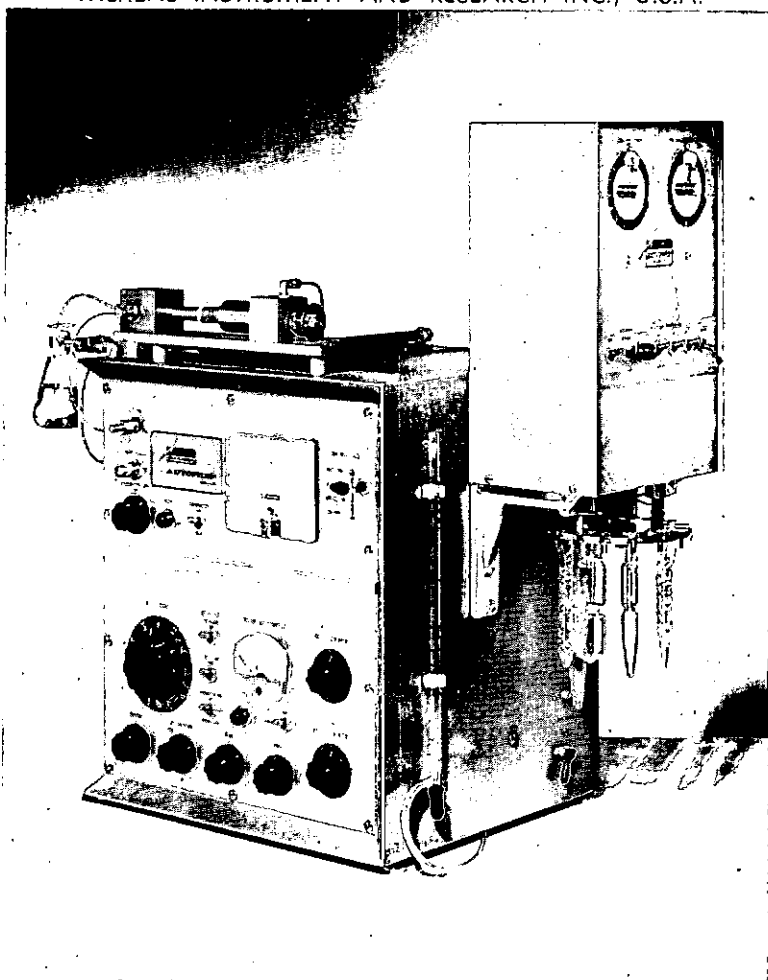
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# JOURNAL OF THE NEW ZEALAND INSTITUTE OF CHEMISTRY

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## CONCEPTION OF A UNIVERSITY

The proposed academic programme for the new University of Waikato (*Report of the Waikato Academic Committee to the University Grants Committee, 1963*) should be studied by all interested in university development in New Zealand. In the Introduction to the Report, the Committee has posed three important questions concerning the nature and function of university education today.

Are courses of study devised for scholars really suitable for educated men and women of affairs? What balance should be struck between general education and specialized study? And what should and can be done to make scientist and non-scientist alike more aware of the pervasive influence of science and technology on our modern way of life?

With these questions in mind, the Committee has recommended that the new University adopt the "school of studies" system instead of the faculty and department organization familiar to all New Zealand graduates. Under the proposed system a student advancing in a particular subject will include within his course those aspects of other subjects which are relevant to his main study, but on a wider, more flexible and better integrated basis than is possible under the traditional degree unit arrangement. By this means it is possible to avoid one of the disadvantages of present degree courses, namely, that lower stages of subjects tend to be designed for those advancing in that subject and are not necessarily suited to those who require a more general knowledge ancillary to a different subject. While acknowledging the importance of specialist training the committee has given special consideration to the production of graduates with a broad basis of knowledge; or, perhaps more important, with habits of thought which enable them to recognize and appreciate fields of culture and experience beyond their specialized discipline. Much has been written (though not all of it wisely) about the gap between those two cultures which Sir Charles Snow somewhat indefinitely classifies as "classical" and "scientific". That some hiatus of understanding exists between branches of scholarship is commonly admitted, and perhaps in the future the most dangerous gap may be that between scholars and administrators. Any system of

university education which encourages an integration rather than a fragmentation of knowledge, provided it does not inhibit the growth of new knowledge, must be welcomed.

In more specific terms, the Committee has recommended that the first phase of development of the new University should include a School of Humanities and a School of Social Studies and that appointments should be made as soon as possible to Chairs of English, Philosophy, Mathematics, Economics, History and Foreign Languages. These two Schools would include teaching in Geography, Politics and Psychology. A School of Commerce is suggested as the next development.

The Committee is emphatic that teaching in science subjects should start as early as possible, initially with Physics, Chemistry and Biology at lower stages but developing to Schools of Physical Sciences and Biological Sciences. In reference to the teaching of science, the Report states:

The Committee is conscious that the contextual approach will call for close examination of the ways in which science teaching can be most effectively offered to students in the Schools of Humanities, of Social Studies and of Commerce. Courses in the history and philosophy of science by themselves can be of little value as bridging elements between disciplines — some first-hand experience of the techniques and aims of the scientist is essential. It may not be desirable to provide this experience through science subjects as traditionally taught.

These proposals are not likely to escape criticism from graduates and university teachers who prefer the traditional structure and who will need to be convinced that the highest academic standards can be maintained under the new system. It is important to note therefore that, in recommending an academic organization based on Schools of Studies and not on faculties and departments, the eight members of the Committee were unanimous. For chemists who have qualms about the teaching of chemistry under this system, it is of further interest that two of the eight members are Fellows of this Institute.

The setting-up of this new university at all has not been welcomed by some graduates and staff of existing universities who have feared another academic mouth agape for grants and staff. Support and understanding from the established academic bodies will be essential not only for a new university but especially for a new experiment in advanced education, particularly if the older universities are themselves to profit from the Waikato experience.

## COUNCIL OFFICERS AND COMMITTEES, 1963-64

*President*: Mr S. G. Brooker.

*Vice-President*: Prof. S. R. Siemon.

*Past President*: Mr W. G. M. Hughson.

*General Secretary*: Dr W. E. Harvey (*Box 196, Wellington*).

*Branch Delegates*: Mr J. Gallaher (*Auckland*); Mr N. T. Clare (*Waikato*); Miss J. M. Mattingley (*Wellington*); Mr T. A. Mitchell (*Canterbury*); Dr W. G. Hanger (*Otago*).

*Registrar*: Mr D. J. Hogan (*Box 1926, Christchurch*).

*Editor*: Mr N. T. Clare (*109 Cambridge Rd., Hamilton*).

*Hon. Librarian*: Mr S. G. Brooker.

*Employment Officer*: Mr E. S. Borthwick (*Box 2091, Wellington*).

*Membership Committee*: Dr W. A. McGillivray, Assoc. Prof. R. D. Batt, Dr J. C. Andrews.

*Representative on Science Committee of Technicians Certificate Authority*: Mr W. E. Dasent.

*Examinations Committee*: Chairman — Dr J. M. Thorpe; Secretary — Mr M. A. Long (*Box 2175, Auckland*).

*Professional Status Committee*: Miss J. M. Mattingley, Dr R. B. Miller, Mr J. R. Beck.

*List of Members Committee*: Chairman — Mr J. S. Pollard.

*Unesco Representative*: Mr J. A. D. Nash.

*Standing Committee of Council*: Mr S. G. Brooker, Dr W. E. Harvey, Miss J. M. Mattingley.

*Journal Committee*: Mr N. T. Clare, Dr E. B. Davies, Mr R. J. Lancaster, Mr K. J. McNaught.

*Standards Institute Representatives*: Mr G. A. Lawrence (Repr. on N.Z.S.I. Council); Mr C. L. H. Stonyer (Chief Repr. for S.I. Affairs, also Insecticides, Refrigeration, etc); Dr R. Gardner (Electroplating, etc.); Mr J. M. Tingey (Metal containers, etc.); Dr L. F. Storey (Textiles).

*Conference Committee*: Chairman — Mr R. J. Lancaster; Secretary Dr R. H. Locker (*Meat Industries Research Institute, Hamilton*).

*Trustees of Trust Fund*: Sir Theodore Rigg, Dr J. C. Andrews, Mr W. G. Hughson.

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## CONFERENCE COMMITTEE

The Conference Committee has decided to hold the 1964 Conference in Hamilton, at the Girls' High School, from Tuesday, August 25, to Friday, August 28. Sessions will commence after lunch on Tuesday and cease at noon on Friday. Block bookings are being made from Tuesday night to Friday morning, with some further accommodation to Saturday morning. Approximately 80 beds are available in the 3 main hotels, and a further 60 to 80 will be provided in private hotels and motels. The suggested time for the Council meeting is Monday afternoon and Tuesday morning.

The Conference Committee consists of Mr Lancaster (Chairman), Dr Locker (Secretary), Mr McNaught (accommodation), Dr Davies, Dr Hodges, Messrs Allen and Clare.

**BRANCH COMMITTEES, 1963-64****Auckland**

*Chairman:* Mr P. J. Gallaher.  
*Secretary:* Mr G. R. White (*Chemistry Dept., University of Auckland*).  
*Treasurer:* Mr R. W. Olliff.  
*Committee:* Prof. D. R. Llewellyn, Mr H. R. Gapper, Dr F. J. B. Aggett, Miss S. V. Sheat.  
*Branch Editor:* Dr G. A. Nicholls.

**Manawatu**

*Chairman:* Dr E. L. Richards.  
*Secretary:* Dr R. R. Brooks (*Massey University, Palmerston North*).  
*Committee:* Dr R. Bailey, Dr S. Moustafa, Mr G. B. Russell, Mr M. R. Grimmer, Mr D. King.  
*Branch Editor:* Mr R. C. Lawrence.

**Canterbury**

*Chairman:* Mr R. W. Cawley.  
*Secretary:* Mr D. J. Hogan (*P.O. Box 1926, Christchurch*).  
*Treasurer:* Mr T. A. Mitchell.  
*Committee:* Mr W. N. Baird, Dr B. R. Mann, Dr A. J. Wicken, Mr G. J. Wright.  
*Branch Editor:* Dr L. F. Phillips.

**Waikato**

*Chairman:* Dr E. B. Davies.  
*Secretary/Treasurer:* Dr R. Hodges (*Ruakura Animal Research Station, Hamilton*).  
*Committee:* Mr M. R. Coup, Mr N. T. Clare (*Branch Editor*), Mr F. D. Dorofaeff, Mr W. F. Rolt.

**Wellington**

*Chairman:* Miss J. M. Mattingley.  
*Secretary:* Mr R. A. Kennerley.  
*Treasurer:* Mr G. S. McNaughton.  
*Committee:* Mr G. K. Burns, Mr F. P. McAnelly, Mr A. J. Mayne, Dr P. P. Williams.  
*Branch Editor:* Mr W. E. Dasent.

**Otago**

*Chairman:* Dr J. C. Dacre.  
*Secretary:* Dr W. G. Hanger (*Pathology Research Department, Medical School, Dunedin*).  
*Treasurer:* Dr C. G. Pope.  
*Committee:* Dr A. G. Williamson (*Branch Editor*), Dr A. D. Campbell, Dr E. R. Entwistle, Mr D. W. Lockhart, Mr C. W. Thomson, Mr A. W. Jackson.

## PAPERS READ BEFORE BRANCHES, 1963

### AUCKLAND BRANCH

Recent advances in brewing chemistry (*Mr R. C. Selkirk*).  
Chemistry of bismuth ions (*Dr G. A. Wright*).  
The energy resources of the world (*Mr W. G. M. Hughson*).  
Some aspects of paint technology (*Mr M. J. Elliot*).  
The manufacture of Gibraltar Board (*Mr G. Maskill Smith*).  
Kidney disease and the artificial kidney (*Dr J. D. K. North*).  
The development of fine organic chemicals and drugs (*Mr D. G. Payne*).  
Glassblowing demonstration and film (*Mr W. S. Barr*).  
The surface chemistry of proteins (*Prof. A. E. Alexander*).  
Continuous biochemical processes in industry (*Prof. B. J. Ralph*).  
The synthesis of antiradiation agents (*Prof. G. W. Stacy*).

### WAIKATO BRANCH

World fuel and power resources (*Mr W. G. M. Hughson*). Combined meeting with Wai-kato Branch Royal Society.  
Silage (*Mr R. J. Lancaster*). 1962 Chairman's Address.  
AutoAnalyzer techniques (*Miss A. E. Stevenson*).  
Nitrile metabolism in plants (*Dr G. W. Butler*).  
A talk with no name (on timber industry products) (*Dr. G. A. Nicholls*).  
The New Zealand meat industry (*Mr N. H. Law*).  
Surface chemistry of insecticides (*Prof. A. E. Alexander*).  
Austrian spectroscopy (*Mr J. E. Allan*).  
Chairman's Address—Sulphur and nitrogen uptakes by plants (*Mr F. D. Dorofaeff*).

### MANAWATU BRANCH

The biosynthesis and metabolism of nitriles (*Dr G. W. Butler*).  
A science student in the Soviet Union (*Dr P. Vere-Jones*).  
Physical methods in the evaluation of the structure of sporidesmin (*Dr R. Hodges*).  
Radiochemical methods of analysis (*Prof. J. F. Duncan*).  
Glyco-lipids of plant leaves (*Dr R. W. Bailey*).  
The processing of biological materials (*Prof. J. K. Scott*).  
Talks on research work (*Messrs M. R. Grimmitt, C. R. Boswell and R. Fenwick*).

### WELLINGTON BRANCH

The formation and metabolism of propionic acid (*Dr A. T. Johns*).  
Display of instruments and techniques at Dominion Laboratory, with buffet tea.  
Science in industrial development (*Mr I. D. Dick*).  
Discussion evening.  
Chairman's Address: Chemistry in the medical laboratory (*Miss J. M. Mattingley*).  
Conversazione in the chemistry department, V.U.W., with buffet tea.  
Mellor Memorial Lecture: The role of analytical chemistry in science and industry (*Prof. J. F. Duncan*).  
The natural radiation environment and its possible mutagenic effects (*Sir Ernest Marsden*). Buffet tea very kindly provided by Lever Bros. Ltd.

## CANTERBURY BRANCH

- Development of mineral resources (*Dr I. W. Wark*).  
 The best use of research talent (*Dr F. G. Soper*).  
 Chemical aspects of modern medicine (*Dr D. R. Beavan*).  
 Some current trends in electro-chemistry (*Dr J. M. Austin*).  
 Symposium: New approaches to chemistry teaching (*Mr R. Roy, Prof. J. Vaughan*).  
 Some current problems in nucleic acid chemistry (*Dr R. K. Ralph*).  
 Atomic absorption spectroscopy (*Mr J. E. Allan*).  
 The nature and activity of micro-organisms (*Dr A. P. Mulcock*).  
 Less common separation methods (*Prof. S. M. R. Ellis*).  
 Sr-90 fallout in N.Z. Its measurement and potential hazard (*Mr L. P. Gregory*).  
 Recent problems in the field of surface chemistry and colloids (*Prof. A. E. Alexander*).  
 Chemical education in U.S.A. (*Prof. G. Stacy*).  
 Chemical engineering research (*Prof. P. V. Danckwerts*).  
 Mechanisms of aromatic nitration (*Dr A. Fischer*).

## OTAGO BRANCH

- Sub-micro methods of analysis (*Dr A. D. Campbell*).  
 Recent advances in flour chemistry and technology (*Mr T. A. Mitchell*).  
 Chairman's Address: Qualitative elemental organic analysis (*Dr A. D. Campbell*).  
 Steroids and sex (*Dr R. W. Spitzer*).  
 Ruminant metabolism (*Dr D. E. Wright*).  
 Fuel and power resources (*Mr W. G. M. Hughson*).  
 Atomic absorption spectra (*Mr J. E. Allan*).  
 Breakdown of amine salts (*Prof. J. Vaughan*).  
 Recent problems in the fields of surface chemistry and colloids (*Prof. A. E. Alexander*).  
 Research evening (*Messrs A. R. Keen, I. D. McKinnon and J. G. Robertson*).  
 Research in chemical engineering (*Prof. P. V. Danckwerts*).

## LIST OF MEMBERS, 1963

The *List of Members* has again been compiled by a Canterbury Branch committee under the chairmanship of Mr J. S. Pollard. Every member of the Institute has been given an opportunity to see that the entry concerning him is correct, but some changes will undoubtedly have occurred during the period immediately preceding publication. The Committee will not send the current listing to each member in 1964, but will revise the list on the basis of changes or corrections sent to the Registrar by members. *They are urged to do this promptly to avoid delay and annoyance through inaccurate records.* In 1965 all members will again be asked to confirm their current listing.

On January 1, 1964, Massey College becomes *Massey University of Manawatu*, and the Department of Chemistry becomes the *Department of Chemistry and Biochemistry*. The Committee has endeavoured to list all members concerned under the new titles. As from April 1, 1964, the Dominion Laboratory will be called *Chemistry Division, D.S.I.R.* (address: Private Bag, Petone); and the Fats Research Laboratory will be designated *Fats Research Division, D.S.I.R.* (Box 8021, Wellington).

# List of Members, 1963

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## ABBREVIATIONS USED

- A.Aust.I.M.M.—Associate, Australasian Institute of Mining and Metallurgy.  
A.C.G.I.—Associate, City and Guilds Institute, London.  
A.G.I.T.—Associate, Gordon Institute of Technology, Geelong, Victoria  
Australia.  
Agr. L.—Licentiate of Agriculture.  
A.I.B.—Associate, Institute of Brewing.  
A.I.M.—Associate, Institution of Metallurgists.  
A.I.M.L.T.—Associate, Institute Medical Laboratory Technology.  
A.I.M.M.—Associate, Institution of Mining and Metallurgy.  
A.Inst.P.—Associate of the Institute of Physics.  
A.M.I.Chem.E.—Associate Member, Institution of Chemical Engineers.  
A.M.I.Mech.E.—Associate Member, Institution of Mechanical Engineers.  
A.M.Inst.F.—Associate Member, Institute of Fuel.  
A.M.Inst.Gas E.—Associate Member, Institution of Gas Engineers.  
A.M.N.Z.I.E.—Associate Member, New Zealand Institution of Engineers.  
A.M.T.C.—Associate, Melbourne Technical College.  
A.N.Z.E.I.—Associate, New Zealand Electronics Institute.  
A.N.Z.I.M.—Associate, New Zealand Institute of Management.  
A.N.Z.I.R.E.—Associate, New Zealand Institute of Refrigeration Engineers.  
A.N.Z.I.W.—Associate, New Zealand Institute of Welding.  
A.N.Z.L.A.—Associate, New Zealand Library Association.  
A.O.S.M.—Associate, Otago School of Mines.  
A.R.A.C.I.—Associate, Royal Australian Chemical Institute.  
A.R.A.N.Z.—Associate, Registered Accountant, New Zealand.  
A.R.C.S.—Associate, Royal College of Science.  
A.R.I.C.—Associate, Royal Institute of Chemistry.  
A.S.T.C.—Associate, Sydney Technical College.  
A.T.I.—Associate, Textile Institute.
- B.A.—Bachelor of Arts.  
B.Agr.Sc.—Bachelor of Agricultural Science.  
B.Agr.Sc.(Dairy Tech.)—Bachelor of Agricultural Science, Dairy Tech-  
nology Option.  
B.Chem.E.—Bachelor of Chemical Engineering.  
B.Com.—Bachelor of Commerce.  
B.E.—Bachelor of Engineering.  
B.E.(Chem.)—Bachelor of Chemical Engineering.  
B.H.Sc.—Bachelor of Home Science.  
B.Med.Sc.—Bachelor of Medical Science.  
B.Sc. Bachelor of Science.
- Cand. and Doct. Exam.—Candidaats and Doctoraal Examination (Am-  
sterdam).  
C.B.E.—Commander of the Order of the British Empire.  
Ch.B.—Bachelor of Surgery.  
C.O.P.—Certificate of Proficiency.  
C.O.P.H.L.P.—Certificate of Proficiency, Hospital Laboratory Practice.

Dip.Bact.—Diploma in Bacteriology.  
 Dip.Chem.Eng.—Diploma in Chemical Engineering.  
 D.D.S.—Doctor of Dental Surgery.  
 Dip.Ed.—Diploma in Education.  
 Dip.Ind.Chem.—Diploma in Industrial Chemistry (University of Canterbury).  
 Dip.Eng.Chem.—Diploma in Chemical Engineering.  
 Dip.N.Z.Lib.Sch.—Diploma, New Zealand Library School.  
 D.Crim.—Doctor of Criminology, University of California.  
 D.I.C.—Diploma, Imperial College of Science and Technology.  
 D.Phil.—Doctor of Philosophy.  
 D.Sc.—Doctor of Science.

E.D.—Efficiency Decoration.

Fil.dr.—Doctor of Philosophy.  
 F.I.M.—Fellow, Institution of Metallurgists.  
 F.I.P.H.E.—Fellow, Institute of Public Health Engineers.  
 F.Inst.F.—Fellow, Institute of Fuel.  
 F.Inst.S.P.—Fellow, Institute of Sewage Purification.  
 F.N.Z.I.M.—Fellow, New Zealand Institute of Management.  
 F.R.A.S.—Fellow, Royal Astronomical Society.  
 F.R.I.C.—Fellow, Royal Institute of Chemistry.  
 F.R.S.A.—Fellow, Royal Society of Arts.  
 F.R.S.N.Z.—Fellow, Royal Society of New Zealand.

Ing.—Ingenieur, i.e. a University Practical Diploma at the Masterate level

K.B.E.—Knight Commander of the Order of the British Empire.

LL.M.—Master of Laws.

M.A.—Master of Arts.

M.A.I.M.E.—Member, American Institute of Mining and Metallurgical Engineers.

M.App.Sc.—Master of Applied Science.

M.Aust.I.M.M.—Member, Australian Institute of Mining and Metallurgy.

M.B.—Bachelor of Medicine.

M.D.—Doctor of Medicine.

M.H.Sc.—Master of Home Science.

M.I.Chem.E.—Member, Institution of Chemical Engineers.

M.I.Min.E.—Member, Institution of Mining Engineers.

M.Chem.Eng.—Master of Chemical Engineering.

M.Inst.F.—Member, Institute of Fuel.

M.P.S.—Member, Pharmaceutical Society.

M.S.A.Chem.I.—Member, South African Chemical Institute.

M.Sc.—Master of Science.

Mus.B.—Bachelor of Music.

O.B.E.—Officer of the Order of the British Empire.

Ph.D.—Doctor of Philosophy.

## A

- ADAMS, Arthur Francis Reginald, M.Sc., Lincoln College, Christchurch. (*Senior Lecturer in Soil Science*). A.'39.
- ADAMS, Dennis Beaumont, B.Sc., A.N.Z.I.M., BALM Paints (N.Z.) Ltd., Box 1009, Auckland. (*Works Manager*). A.'51.
- ADAMS, Dudley Erne, M.Sc., Auckland Grammar School, P.O. Box 9046, Newmarket, Auckland. (*Senior Chemistry Master*). A.'35.
- ADCOCK, David Smith, M.Sc., Ph.D., N.Z. Refining Co., Ltd., P.O. Box 44, Whangarei. A.'55.
- ADDIS-SMITH, Laurence Frederick, M.Sc.(Lond.), A.R.C.S., F.R.I.C., D.I.C., M.S.A.Chem.I., H. W. Lawrence and Son Ltd., Chemical Service Laboratory, P.O. Box 33, Johnsonville, Wellington (*Managing Director*). F.'55.
- ACGETT, Frederick John, M.Sc., Ph.D., Chemistry Dept., University of Auckland. P.O. Box 2175, Auckland (*Lecturer*). A.'63.
- AIYAR, Krishna Ramchandran, B.Sc. (Nagpur), B.Agr.Sc. (Dairy Tech.), 16 Dharampet Extension, N. Ambaxeri Road, Nagpur, India. A.'63.
- ALCHIN, John David, M.Sc., R. & W. Hellaby Ltd., P.O. Box 2193, Auckland. (*Industrial Chemist*). A.'63.
- ALCORN, Norman Patrick, M.Sc., A.R.I.C., Dominion Laboratory, P.O. Box 2112, Christchurch. (*Government Analyst*). A.'39.
- ALLAN, James Eric, M.Sc., Rukuhia Soil Research Station, Private Bag, Hamilton. (*Senior Principal Scientific Officer*). A.'51.
- ALLISON, Russell Morris, M.Sc., Ph.D.(Wis.), Crop Research Division D.S.I.R., Private Bag, Christchurch. (*Principal Scientific Officer*). A.'45; F.'62.
- ANDERSON, Bryan Frederick, M.Sc., Chemistry Dept., Auckland University, P.O. Box 2175, Auckland. (*Temporary Junior Lecturer*).
- ANDERSON, Colin McDonald, B.Sc., C/o Australian National Biological Standards Laboratory, Canberra A.C.T., Australia. (*Official Analyst for Commonwealth Department of Health*). A.'55.
- ANDERSON, Miss Roberta May, B.Sc., B.H.Sc., Dip.Ed., 20 Hamilton Avenue, Christchurch. (*Head of Science Department, Christchurch Girls' High School*). A.'47.
- ANDERSON, William Edwin, B.Sc., 74 Grange St., Opawa, Christchurch. (*Chemist, G. L. Bowron & Co. Ltd.*). A.'52.
- ANDREW, David Henry, B.Sc., Kiwi Fertilizer Co. Ltd., P.O. Box 105, Morrinsville. (*Chief Chemist*). A.'62.
- ANDREWS, Ernest David, M.Sc., Wallaceville Animal Research Station, Private Bag, Wellington. (*Senior Principal Scientific Officer*). A.'46.

- ANDREWS, John Clark, M.Sc., Ph.D., F.R.I.C., A.M.I.Chem.E., 403A Devon Street West, New Plymouth. (*Works Director, Ivon Watkins Ltd., Director Watkins Gardinol Chemicals Ltd., United Chemicals Ltd.*). A.'31; F.'36.
- ANNETT, Harold Edward, O.B.E., B.Sc., Agric.(Lond.), D.Sc.(Lond.), F.R.I.C., 18 Windsor Rd., Beerescourt, Hamilton. (*Retired. Formerly Indian Agricultural Service*). A.'31; F.'43.
- ANSLEY, Desmond Reginald, B.Sc., Taniwha Products Ltd., Bell Ave., Westfield, Auckland. (*Chief Chemist*). A.'59.
- APPLEYARD Robert Ian, B.Sc., Union Carbide New Zealand Pty. Ltd. Vivian Street, Wellington. (*Manager*). A.'54.
- ARCUS Alexander Colvin, M.Sc., Ph.D., Medical Unit, Princess Margaret Hospital, Christchurch. (*Research Biochemist*). A.'62.
- ARMSTRONG, Alan George, B.Sc., Ngata Memorial College, Ruatoria, via Gisborne. (*Teacher*).
- ASKEW, Henry Oscar, O.B.E., M.A., Ph.D.(Lond.), D.I.C., F.R.I.C., F.R.S.N.Z., New Zealand Breweries Ltd., Box 211, Wellington. (*Research Chemist*). A.'36; F.'37.
- AUSTIN, John Maurice, M.Sc., Ph.D., Chemistry Department, University of Canterbury, Box 1471, Christchurch. (*Senior Lecturer*). A.'53.
- AYLING, Herbert Sydney, M.Sc., Industrial Chemicals (N.Z.) Ltd., Panmure, Auckland. (*Chemist*). A.'46.

## B

- BAILEY, Maurice Ross, B.Sc., 133 Salford Street, Invercargill. (*Science Teacher, James Hargest High School*). A.'58.
- BAILEY, Raymond Wellesley, M.Sc., Ph.D.(Birm.), Plant Chemistry Division D.S.I.R., Private Bag, Palmerston North (*Senior Principal Scientific Officer*). A.'46; F.'62.
- BAIRD, Walter Norman, B.Sc., Dip.Ind.Chem., Shirley Boys' High School, Christchurch. (*Asst. Master*). A.'63.
- BAKER, Lewis Charles, M.Sc., W. Gregg & Co. Ltd., Box 956, Dunedin. (*Works Manager*). A.'46.
- BARCLAY, John Bernard, B.Sc., 1 Holland Avenue, Glen Eden, Auckland. (*Production Chemist, A. C. Hatrick (N.Z.) Ltd.*). A.'58.
- BARKER, Geoffrey Herbert, M.Sc., Reid (N.Z.) Rubber Mills Ltd., Private Bag, Auckland. (*Chemist*). A.'48.
- BARNES, Fred, M.Sc., The Fletcher Industries Ltd., Plywood Division, Mandeville Street, Riccarton, Christchurch (*Chief Chemist*). A.'55; F.'62.
- BARNES, James Francis, B.Sc., Alliance Freezing Co., P.O. Box 845, Invercargill. (*Production Supervisor*). A.'60.

- BARNICOAT, Cuthbert Richmond, D.Sc., Ph.D. (Minnesota); F.R.I.C., F.R.S.N.Z., Cawthron Institute, P.O. Box 175, Nelson. (*Director*). A.'31; F.'43.
- BARR, William Lyall, B.A., M.Sc., F.R.I.C., N.Z. Forest Products Ltd., Private Bag, Auckland, C.I. (*Research Chemist*). A.'31; F.'49.
- BARRACK, Bruce Graburn, B.Sc., C/o Nicholas Products Ltd., P.O. Box 12,061 Penrose, Auckland. (*Chief Chemist*). A.'57.
- BARTRUM, Miss Margaret Patricia, M.Sc., Dominion Laboratory, D.S.I.R., P.O. Box 2224, Auckland, (*Scientific Officer*). A.'41.
- BATHURST, Noel Onslow, M.Sc., Plant Chemistry Division, D.S.I.R., Private Bag, Palmerston North. (*Chemist*). A.'45.
- BATT, Richard Dean, M.Sc., Ph.D., M.A.(Oxon), D.Phil.(Oxon), F.R.I.C., Biochemistry Department, Medical School, University of Otago, Dunedin. (*Associate Professor*). A.'55; F.'62.
- BAYLISS, Stuart Patrick, B.Sc., Ocean Beach Freezing Co. Ltd., Invercargill. (*Chemist*). A.'60.
- BEACHEN, John Frederick, M.Sc., Samson Paints Ltd., Patiki Street, Avondale, Auckland. (*Head Chemist*). A.'56.
- BEATH, George Bentley, M.A., Dip.Ed., A.I.Ed.(Lond.), Dunedin Teachers' College, Dunedin. (*Principal*). A.'33.
- BECK, John Richard, B.Sc., N.Z. Breweries Ltd., Box 23, Auckland. (*Assistant Technical Manager*). A.'50.
- BELL, Muriel Emma, C.B.E., M.D., F.R.A.C.P., F.R.S.N.Z., 22 Ravenswood Road, Dunedin, S.W.1. F.'41.
- BETTY, Stewart Morris, B.Sc., Dip.Ind.Chem., Empire Rubber Mills Ltd., c/o Woolston P.O., Christchurch. (*Manager*). A.'52.
- BIELSCHOWSKY, Marianne, Ph.D.(Freiburg), Medical School, University of Otago, Dunedin. (*Chemist to Cancer Research Department*). A.'51.
- BIRRELL, Kenneth Stewart, M.Sc., A.R.I.C., Soil Bureau, D.S.I.R., Private Bag, Lower Hutt (*Senior Soil Physicist*) A.'41.
- BLACKIE, William John, M.Sc., F.R.I.C., United Nations Mission, D.I.T. Building, Dacca 2, East Pakistan (*F.A.O. Leader*). A.'33; F.'35.
- BLACKMAN, John Gary, M.Sc., Ph.D., Department of Pharmacology, Medical School, P.O. Box 913, Dunedin. (*Senior Lecturer*). A.'56.
- BLANC, Albert Damer Gibson, B.Sc., M.B., Ch.B., P.O. Box 91, Wanaka. (*Medical Practitioner*). A.'39.
- BLIGHT, Margaret Mary, M.Sc., Dominion Laboratory, Private Bag, Petone. (*Scientific Officer*). A.'62.
- BLOOM, Harry, D.Sc.(Melb.), Ph.D.(Lond.), D.I.C., F.R.A.C.I., Chemistry Department, University of Tasmania, Box 252C, Hobart, Australia. (*Professor*). A.'48; F.'60.

- BLUCK, Ross Steele, M.Sc., Mobil Oil New Zealand Ltd. P.O. Box 73, Petone. (*Chemist, Seaview Terminus*). A.'63.
- BODY, Denis Roger, M.Sc., Fats Research Laboratory, D.S.I.R., P.O. Box 8021, Wellington. (*Scientific Officer*). A.'63.
- BOLLARD, Edward George, B.Sc., Ph.D.(Cantab.), Fruit Research Station, D.S.I.R., Auckland. (*Plant Physiologist*). A.'53.
- BORTHWICK, Edwin Sloan, M.Sc., A.R.I.C., Shell Oil N.Z. Ltd., Box 2091, Wellington. (*Assistant Technical Adviser*). A.'36.
- BOUSTRIDGE, William, B.Sc., Winstone Ltd., Auckland. (*Market and Economic Analyst*). A.'61.
- BOWYER, Stephen Bernard, 280 Mill Road, Otaki (*Retired*). A.'31. Hon.M.
- BRASCH, Donald James, M.Sc., Ph.D.(Queen's), Dominion Laboratory, P.B. Petone. (*Senior Scientific Officer*). A.'59.
- BREEN, John Newman, Stratford Dairy Co. Ltd., P.O. Box 97, Stratford. (*Chemist*). A.'61.
- BREWERTON, Hugh Victor, M.Sc., A.R.I.C., Dominion Laboratory, Private Bag, Petone. (*Principal Scientific Officer*). A.'63.
- BRIDGMAN, Michael John, B.Sc., A.N.Z.I.M., N.Z. Wallboards Ltd., Christchurch. (*Manager*). A.'60.
- BRIGGS, Lindsay Heathcote, D.Sc., D.Phil.(Oxon.), F.R.S.N.Z., F.A.N.Z.A.A.S., Chemistry Department, University of Auckland, P.O. Box 2175, Auckland. (*Professor of Chemistry*). A.'33; F.'36.
- BRIGGS, Michael Harvey, B.Sc.(Liverpool), M.S.(Cornell), D.Sc.(N.Z.), Jet Propulsion Lab., California Institute of Technology, Oak Grove Drive, Pasadena, Calif., U.S.A. A.'61.
- BROAD, (Mrs.) Patricia Wyndham, M.Sc., Marsden College, Wellington. (*Chemistry Teacher*). A.'63.
- BROOKER, Edgar George, M.Sc., Ph.D., Ivon Watkins Ltd., New Plymouth. A.'48.
- BROOKER, Stanley George, M.Sc., Abels Ltd., Box 9012, Newmarket, Auckland. (*Chief Chemist*). A.'42; F.'48.
- BROOKS, Robert Richard, B.Sc.(Hons.)(Bristol), Ph.D.(Capetown), A.R.I.C., Biochemistry Department, Massey College Palmerston North, (*Senior Lecturer*). A.'61.
- BROUGHTON, George Wilfred, B.Sc., McLeod Bros. Ltd., P.O. Box 908, Dunedin. (*Factory Manager*). A.'46.
- BROWN, Desmond Goble, M.Sc., Kempthorne Prosser & Co.'s, New Zealand Drug Company Ltd., P.O. Box 319, Dunedin, (*Chief Chemist, Pharmaceutical Laboratories*). A.'57.
- BROWN, Mrs. Kathleen Elizabeth, B.Sc., M.H.Sc., Hill Street South, Richmond, Nelson. (*Nelson Girls' College*) A.'49

- BROWNE, Gavin Fair, M.Sc. Mobil Oil New Zealand Ltd., P.O. Box 391 Wellington. (*Sales Chemist*) A.'61.
- BROWNE, William Edward, B.Sc., Box 12,084, Auckland. (*Purchasing Officer, Lincoln Industries Ltd.*). A.'49.
- BROWNING, Allen Ransome, B.Sc., Fijian Ore Co. Ltd., P.O. Box 143, Lautoko, Fiji. (*Company Manager*). A.'51.
- BRUCE, James Arthur, "Montrose," Kimpton Road, Papatoetoe, Auckland, P.O. Box 31, Papatoetoe. (*Technical Consultant, Fertilisers and Farmers' Raw Materials etc.*). A.'32.
- BRUCE, Leonard Wainwright, B.Sc., Dominion Laboratory, D.S.I.R., P.B. Petone. (*Senior Scientific Officer*). A.'51.
- BRUNDELL, James Evans, M.Sc., A.R.I.C., Auckland Grammar School. (*Science Master*). A.'41.
- BURNETT, Kenneth Robert, B.Agr.Sc.(Dairy Tech.), Kaipara Dairy Co. Ltd., P.O. Box 20, Helensville. (*Chief Chemist and Assistant Manager*).
- BURNS, Gary Robert, M.Sc., Chemistry Department, Victoria University of Wellington, P.O. Box 196, Wellington. (*Junior Lecturer*). A.'62.
- BURNS Malcolm McRae, C.B.E., M.Sc., Ph.D.(Aberd.), F.R.N.Z., Lincoln College Christchurch. (*Principal*). A.'37; F.'43.
- BURTON, Hugh Stephen Nicholas Hay, B.Sc., A.N.Z.L.A., 120 Nicholson Road, Khandallah, Wellington. (*Head, Bibliographical Section, N.L.S.*). A.'44.
- BUTCHERS, John Barnard, M.Sc., c/o Technical Assistance Board, P.O. Box 274, Monrovia, Liberia. (*Professor of Chemistry, University of Monrovia*). A.'51.
- BUTLER, Graham Wesley, M.Sc., Fil.dr.(Lund.), Plant Chemistry Division D.S.I.R., Private Bag, Palmerston North (*Senior Principal Scientific Officer*). A.'54; F.'63.

## C

- CAIN, Bruce Frank, M.Sc., Ph.D., D.Phil.(Oxon.), British Empire Cancer Research Laboratory, Cornwall Geriatric Hospital, Auckland. (*Senior Cancer Research Fellow*). A.'53; F.'63.
- CAMBIE, Richard Conrad, M.Sc., Ph.D., D.Phil.(Oxon.), Chemistry Department, University of Auckland, P.O. Box 2175, Auckland. (*Senior Lecturer*). A.'57.
- CAMPBELL, Alistair Shand, M.Sc., P.O. Box 52, Lincoln College, Christchurch. (*Lecturer in Chemistry*). A.'59.
- CAMPBELL, Arthur Derek, M.Sc., Ph.D., A.R.I.C., Chemistry Department, University of Otago, Dunedin. (*Senior Lecturer and Microanalyst*). A.'49; F.'62.
- CAMPBELL, David Franklin, B.Sc., Rangiora High School, Rangiora, (*Head of Science Dept.*). A.'63.

- CANDY, Bruce James, M.Sc., Kelston High School, New Lynn, Auckland. (*Science Master*). A.'60.
- CARNEGIE, Patrick Robert, B.Sc.(Hon.) (St. Andrews), Ph.D. (Aberdeen), University of Leeds. (*Senior Research Fellow*). A.'59.
- CARR, Robert Melville, M.Sc., Chemistry Department, University of Otago. (*Assistant Lecturer*). (*Temporarily overseas*). A.'58.
- CARRIE, Maxwell Stuart, M.Sc., F.R.I.C., A.M.I.Chem.E., The Canterbury Frozen Meat Co., Ltd., P.O. Box 2, Belfast, Christchurch. (*Chemist*). A.'36; F.'58.
- CARTER, Charles Lyons, M.Sc., A.R.I.C., 134 Queen Street, Dunedin. (*Reader in Chemistry University of Otago—Retired*). A.'31; F.'43; Hon.M.
- CARTER, David Michael, M.Sc., B.A.L.M. Paints (N.Z.) Ltd., Hutt Road, Lower Hutt. (*Development Chemist*). A.'57.
- CARTER, Denver Milton, B.Sc., Rangitoto College, Mairangi Bay, Auckland. (*Assistant Master*). (*Overseas*). A.'60.
- CAUGHLEY, Frank Gordon, B.A., M.Sc., N.Z. Leather and Shoe Research Association, Private Bag, Lower Hutt. (*Research Officer*). A.'32.
- CAWLEY, Robert William, M.Sc., Wheat Research Institute, P.O. Box 1489, Christchurch. (*Assistant Director*). A.'49.
- CHAMBERLAIN, George, B.Sc., Dominion Laboratory, D.S.I.R., P.B. Petone. (*Chemist*). A.'44
- CHAPMAN, Lewis Peter James, M.Sc., A.R.A.N.Z., Dairy Research Institute, Massey University P.O., Palmerston North. (*Chemist*). A.'48.
- CHAPPELL, Peter Lyndsey, M.Sc., A.R.I.C., Glaxo Laboratories (N.Z.) Ltd., P.O. Box 624, Palmerston North. (*Pharmaceutical Production Manager*). A.'51.
- CHARLTON, Philip Lewis Raymond, B.Sc., Department of Agriculture, Suva, Fiji. (*Senior Chemist*). A.'39.
- CHEESEMAN, Trevor Percival, M.Sc., Chemistry Department, University of Auckland, P.O. Box 2175, Auckland. (*Research Fellow*). A.'62.
- CHILDS, William Edward, B.Sc., B.A.L.M. Paints Pty. Ltd., P.O. Box 60, Clayton, Victoria, Australia. (*Chemist*). A.'50.
- CHRISTENSEN, Max Theodore, M.Sc., Ph.D., Department of Chemistry, University of Canterbury, P.O. Box 1471, Christchurch. (*Senior Lecturer*). A.'50.
- CLARE, Norman Trevor, M.Sc., Ruakura Animal Research Station, Private Bag, Hamilton. (*Chief Biochemist*). A.'35; F.'47.
- CLARK, Percival James Comfort, M.Sc., Dominion Laboratory, D.S.I.R., P.B. Petone. (*Deputy Director and Dominion Analyst*). A.'32; F.'61.
- CLARKE, John Graham, M.Sc., Dairy Research Institute, Massey University P.O., Palmerston North. (*Research Chemist*). A.'63.

- CLEVERLEY, Barry, M.Sc., Ph.D., Dominion Laboratory, D.S.I.R., P.B. Petone. (*Senior Scientific Officer*). A.'52.
- CLIMO, John Matheson, B.Sc., Swift and Co. Ltd., P.O. Box 2301, Auckland. (*Sales Representative*). A.'48.
- COCKBURN, Bruce Lindsey, M.Sc., Wellington College, Wellington, C.4. (*Assistant Master*). A.'58.
- COLEBROOK, Lawrence David, M.Sc., Ph.D., Chemistry Department, University of Rochester, Roch. 27, New York, U.S.A. A.'59.
- COLLINS, Alfred Drew, M.Sc.(Manc.), Trimol Laboratories Ltd., 71 Melrose Road, Mt. Roskill, Auckland, S.E.3. (*Chief Chemist*), A.'36.
- CONE, Edgar, M.Sc.(Lond.), A.R.C.S., D.I.C., A.R.I.C., H. W. Lawrence and Son Ltd., Chemical Service Laboratory, P.O. Box 33, Johnsonville, Wellington. (*Chemist*). A.'39.
- COOKE, Miss Alison Peevor, B.Sc., Dominion Laboratory, Private Bag, Petone. (*Scientific Officer*). A.'48.
- COOP, Ian Edward, M.Sc., D.Phil.(Oxon.), Lincoln College, Christchurch. (*Professor of Animal Husbandry and Vice-Principal*). A.'46; F.'60.
- COOPER, David Edward, M.Sc., 7 Crescent Road, Epsom, Auckland. (*Chemist, A.F.F. Co.*). A.'56.
- CORBAN, George Annis, B.Sc., R. & W. Hellaby Ltd., Auckland. (*Chemist*). A.'60.
- CORBETT, Robert Edward, M.Sc., Ph.D.(Cantab.), Chemistry Department, University of Otago, Dunedin. (*Reader*). A.'53; F.'60.
- CORNES, John Julian Stephen, B.A., B.Sc., Waitomo Portland Cement Co., Box 274, Te Kuiti. (*Senior Chemist*). A.'40; F.'49.
- CORNISH, John Edwin, B.Sc., A.R.A.C.I., I.C.I.(N.Z.)Ltd., P.O. Box 1592, Wellington, (*Technical Manager*). A.'63.
- COTTON, Stephen Richard James, Laboratory, Auckland City Council, Town Hall, Auckland. (*Chief Analyst and Filtration Supervisor*). A.'53.
- COUP, Mostyn Robert, B.Sc., Ruakura Animal Research Station, Private Bag, Hamilton. (*Biochemist*). A.'45.
- COX, Gerald Stanley, B.Pharm., Ph.D., F.P.S., M.I.Biol., Pharmacy Department, College of Advanced Technology, Costa Green, Birmingham 4, England.
- CRAIG, John Thorburn, B.Sc., Ph.D.(Edin.), Chemistry Dept., Victoria University of Wellington, P.O. Box 196, Wellington. (*Lecturer*). A.'63.
- CRAICHEAD, Pat Wylie, M.Sc., N.Z. Plywood (S.I.) Ltd., Mandeville Road, Riccarton. (*Manager, Particle Board Factory*). A.'59.
- CREAMER, Lawrence Kenneth, M.Sc., The Dairy Research Institute, Massey University P.O., Palmerston North (*Chemist*). A.'62.

- CROWLEY, Bernard John, B.Sc., Merck, Sharp and Dohme (N.Z.) Ltd., P.O. Box 362, Lower Hutt. (*Technical Director*). A.'60.
- CROZIER, Henry William, M.Sc., Marathon Rubber Footwear Ltd., Christchurch. (*Chief Chemist*). A.'31.
- CRUMP, (Miss) Fay Hilton, B.Sc., Dominion Laboratory, Private Bag, Petone (*Scientific Officer*). A.'63.
- CURTIS (Mrs.) Yvonne Margaret, M.Sc., Wellington Girls' College (*Asst. Teacher*). A.'63.

## D

- DACRE, Jack Craven, M.Sc., Ph.D.(Lond.), Pathology Research Unit, Medical School, University of Otago, Dunedin. (*Senior Research Officer, M.R.C.*). A.'45; F.'58.
- da ROZA, Robert Anthony, A.B., M.S.(Calif.), Institute of Nuclear Science, Private Bag, Lower Hutt. (*Principal Scientific Officer*). A.'63.
- DASENT, Wilfred Effingham, M.Sc., Chemistry Department, Victoria University of Wellington, Box 196, Wellington. (*Senior Lecturer*). A.'51.
- DAVEY, Colin Lester, M.Sc., Ph.D.(Cantab.), Meat Research Institute, P.O. Box 617, Hamilton. (*Biochemist*). A.'62
- DAVIES, Edwin Braithwaite, M.Sc., Ph.D.(Aberd.), A.R.I.C., Rukuhia Soil Research Station, P.O. Box 490, Hamilton. (*Senior Principal Scientific Officer*). A.'31; F.'52.
- DAVIES (Mrs.), Marjorie June, B.H.Sc., c/o Karitane Products Society, Melrose, Wellington. (*Chemist*). A.'58.
- DAVIS, Brian Reeve, M.Sc., Ph.D., Chemistry Department, University of Auckland, P.O. Box 2175, Auckland. (*Lecturer*). A.'55.
- DAVIS, Graeme Frear, M.Sc., C.O.P. (Hospital Laboratory Practice), Medical Laboratory, 127 Grafton Road, Auckland. (*Biochemist*). A.'55.
- DAVES, Stuart Neil, B.Sc., Dominion Laboratory, P.B. Petone. (*Scientific Officer*). A.'54.
- DEARSLEY, William Leonard Melville, M.A.(Cantab.), Dominion Yeast Co. Ltd, Box 2106, Christchurch. (*Chief Chemist and Works Manager*). A.'31; F.'46.
- De BOER, Pieter Johannes, M.Chem.Eng.(Delft.), International Paints of N.Z. Ltd., 4 Seatoun Heights Road, Wellington, E.5. (*Senior Chemist*). A.'54.
- DEMCHENKO, Mrs. Zinaida, Ing. Chemist (Kharkov), N.Z. Pottery and Ceramics Research Assn., Private Bag, Lower Hutt. (*Scientific Officer*) A.'53.

- DEMCHENKO, Zosim, Ing. Chemist Applied Sc. (Kharkov), Griffin and Sons Ltd., P.O. Box 327, Lower Hutt. (*Chief Chemist*). A.'53.
- DENMEAD, Colin Frank, B.Sc., Health Department, P.O. Box 5442, Auckland. (*Chemical Inspector*). A.'43.
- DENNIS, Rodney Arthur, B.Agr.Sc.(Dairy Tech.), Albertland Co-op Dairy Co., Private Bag, Wellsford. (*Manager*). A.'57.
- DENNISON, John Scott, M.A., B.Sc., Dip.Ed., Otago Boys' High School. (*Science Teacher*). A.'60.
- DICK, David Andrew, M.Sc., 40 Gladstone Road, Dunedin, N.E.1. (*Chemist and Brewer, Wilson's Malt Extract Co., Willowbank, Dunedin*). A.'32.
- DINGLEY, George, MSc., Stevenson and Howell (N.Z.) Ltd. (*Manager*). A.'40.
- DIXON, Joseph Keith, M.Sc., Ph.D.(Lond.), D.I.C., F.R.I.C., F.R.S.N.Z., Soil Bureau, D.S.I.R., Private Bag, Lower Hutt. (*Director*). A.'36; F.'41.
- DOAK, Brian Wilfred, D.Sc., N.Z. Fertiliser Manufacturer's Research Association, Otago Research Station, Otahuhu, Auckland. (*Director*). F.'44.
- DOBSON, Alexander, B.Sc., A.R.A.N.Z., N.Z. Wallboards Ltd., 153A Balmoral Road, Auckland. (*Chief Chemist*). A.'49.
- DOLBY, Richard Malcolm, M.Sc., Ph.D.(Lond.), The Dairy Research Institute (N.Z.), Massey University P.O., Palmerston North. (*Chemist*) A.'48; F.'63.
- DOROFAEFF, Francis Desmond, B.Sc., Rukuhia Soil Research Station, Private Bag, Hamilton. (*Senior Scientific Officer*). A.'47.
- DRYDEN, John Willoughby, B.Sc., M.I.Chem.E., The Lactose Company of N.Z. Ltd., Kaponga R.D., Taranaki (*Factory Manager*). A.'46.
- DUNCAN, James Francis, M.A., M.Sc., D.Phil., D.Sc., Chemistry Department, Victoria University of Wellington, P.O. Box 198, Wellington. (*Professor of Inorganic and Theoretical Chemistry*). F.'62.
- DUNCKLEY, Geoffrey Gordon, B.Sc., Nutrition Research Department, Medical School, P.O. Box 913, Dunedin. (*Research Officer*). A.'62.
- DUNCKLEY, James Vivian, B.Sc., Medical School, Pathology Department, University of Otago, Dunedin. (*Biochemist*). A.'51.
- DURHAM, Reginald Alexander, M.Sc., R. A. Durham Ltd., Box 9210, Newmarket, Auckland. (*Manufacturing and Consulting Chemist*). A.'48.

## E

- EARL, William Brian, B.Sc., B.E.(Chem. Hons.), Chemical Engineering Department, University of Canterbury, P.O. Box 1471, Christchurch. (*Assistant Lecturer*). A.'62.
- EDSON, Norman Lowther, B.Med.Sc., M.B., Ch.B., Ph.D. (Cantab.), F.R.S.N.Z., Medical School, University of Otago, Dunedin, C.I. (*Professor of Biochemistry*). A.'37; F.'43.
- EDWARDS, Henry Hanbury, Morcom Green & Edwards Ltd., Avondale, Auckland. (*Director*). A.'32; F.'49.
- ELDER, William Ross, M.Sc., Linwood High School, Aldwins Road, Christchurch. (*Head of Department of Biology*). A.'44.
- ELLIOTT, Malcolm John, M.Sc., BALM Paints (N.Z.) Ltd., P.O. Box 1009, Auckland (*Head Chemist*). A.'63.
- ELLIS, Albert James, M.Sc., Ph.D., Dominion Laboratory, D.S.I.R., P.B. Petone. (*Senior Principal Scientific Officer*). (Temporarily Overseas). A.'54; F.'62.
- ELLISON, Miss Dorothy Jean, M.Sc., A.R.A.C.I., Abbotsleigh School, Wharoonga, Sydney, N.S.W. (*Senior Chemistry Mistress*). A.'32.
- ELPHICK, John Oliver, B.Sc., Dominion Laboratory, D.S.I.R., Private Bag, Petone. (*Fuel Chemist*). A.'43.
- ENGLAND, Brian Daysh, M.Sc., Ph.D.(Lond.), Chemistry Department, Victoria University of Wellington, P.O. Box 196, Wellington. (*Senior Lecturer*). A.'60.
- ENTWISTLE, Mrs Evelyn Ruth, B.Sc.(Hons.), Ph.D.(St. Andrews), A.R.I.C., Chemistry Department, School of Home Science, University of Otago, P.O. Box 56, Dunedin. (*Lecturer in Textiles*). A.'62.
- ERSKINE, John Malcolm, B.Sc.(Hons.) (Liverpool), Dairy Research Institute, Massey University P.O., Palmerston North (*Bacteriologist*). A.'62.
- ESCHER, Wallace Lee, B.Sc., Dominion Laboratory, Private Bag, Petone. (*Scientific Officer*). A.'63.

## F

- FASTIER, Frederick Noel, M.Sc., D.Sc., D.Phil.(Oxon), F.R.I.C., Medical School, University of Otago, Dunedin, C.I. (*Associate Professor in Pharmacology*). A.'44; F.'61.
- FERGUSON, Jack Eric, M.Sc., Ph.D. (Lond.), Chemistry Department, University of Canterbury, P.O. Box 1471, Christchurch. (*Lecturer*). A.'60.

- FIELDER, Morice, D.Sc., Soil Bureau, D.S.I.R., Private Bag, Lower Hutt. (*Senior Principal Scientific Officer*). A.'37.
- FIFE, Clifford Valmont, M.Sc., Ph.D., Soil Science Department, Massey University of Manawatu, Palmerston North. (*Senior Lecturer and Head of Department*). A.'33; F.'63.
- FISCHER, Alfred, M.Sc., Ph.D., Chemistry Department, University of Canterbury, P.O. Box 1471, Christchurch. (*Senior Lecturer*). A.'55.
- FITZGERALD, David Gerald, B.Sc., Imperial Chemical Industries (N.Z.) Ltd., P.O. Box 275, Lower Hutt. (*Production Supervisor*). A.'55.
- FITZGERALD, Paul, M.Sc., Burnside High School, Christchurch, 4. (*Asst. Master*). A.'63.
- FORRESTER, Alan McCallum, B.Sc., N.Z. Refrigerating Co. Ltd., Islington, Christchurch. (*Assistant Chemist*). A.'53.
- FORSYTH, John Charles, N.Z. Refrigerating Co. Ltd., Islington, Christchurch. (*Chief Chemist*). A.'31.
- FOSTER, Peter Kinnear, M.Sc., Ph.D., D.I.C., Pottery and Ceramics, Research Association D.S.I.R., Private Bag, Lower Hutt (*Director*). A.'59.
- FRANCE, John Terence, M.Sc., Central Laboratory, Auckland Public Hospital. (*Biochemist*). (*Overseas*). A.'61.
- FRANCIS, Graeme Cecil, B.Sc., Mobil Oil (N.Z.) Ltd., P.O. Box 73, Petone. (*Manufacturing Supervisor*). A.'59.
- FRANKEL (nee Donovan), Christine Lesley, B.Sc., City Council Laboratory, P.O. Box 2199, Wellington. (*Chemist*). A.'59.
- FRASER, John Gareth, Plant Chemistry Division, D.S.I.R., Private Bag, Palmerston North. (*Technical Officer*). A.'58.
- FREITAG, Walter, M.Sc., B.P. (New Zealand) Ltd. Laboratory, P.O. Box 892, Wellington. (*Chemist*). A.'60.
- FREYBERG, Ernest, B.Sc., Dip.Chem.Ing.(Vienna), 9 Kebbelle Grove, Lower Hutt. (*Technical Manager, Batavian Rubber Co. Ltd., Birdwood Street, Featherston*).
- FRIEBERG, Alan George, M.Sc., A.R.I.C., 42 Nottingham Street, Westmere, Auckland, W.2. (*Chief Chemist, Dairy Laboratory, Department of Agriculture*). A.'39.
- FRIEBERG, George Frederick, A.R.A.C.I., 81 West End Road, Westmere, Auckland, W.2. (*Retired*). A.'31, Hon.M.
- FURKERT, Roderick John, M.Sc., Soil Bureau, Private Bag, Lower Hutt. (*Scientific Officer*). A.'63.
- FUTTER, John Herbert, M.Sc., H. W. Lawrence & Son Ltd., P.O. Box 33, Johnsonville. (*Chemist*). A.'59.

## G

- GALLAHER, Philip James, B.Sc., Fertiliser Manufacturers' Research Association, Otara Research Station, Otahuhu, Auckland. (*Chemist*). A.'48.
- GALLOWAY, Warren John, M.Sc., Chemistry Department, University of Canterbury, P.O. Box 1471, Christchurch. (*Ph.D. Student*). A.'62.
- GAMBLE, Thomas Palmer Jackson, B.Sc.(Hons.)(Belfast), Pinchin, Johnson & Co. Ltd., Miramar, Wellington. (*Research Chemist*). A.'59.
- GAPPER, Harry Richmond, M.Sc., Peach Products Ltd., Otahuhu, Auckland, S.E.7. (*Chief Chemist*). A.'49.
- GARDNER, Kennett Hurst, N.Z. Standards Institute, Department of Industries and Commerce, Wellington. (*Technical Officer, Chemical*). A.'62.
- GARDNER, Roy, D.Sc., M.I.Chem.E., F.R.I.C., Dr. R. Gardner and Partners Ltd., 41 Dowling Street, Dunedin. (*Consulting Industrial Chemist*). A.'31; F.'35; Hon. F.'63.
- GARLICK, Raymond Kevin, B.Sc., 12 Yeovil Place, Christchurch, 5. A.'52.
- GAY, Selwyn Roy, Southland Co-op Phosphate Co., Box 849, Invercargill. (*General Manager*). A.'31.
- GEDDES, Mrs. June Moyra, M.Sc., 113 Donald Street, Karori, Wellington. A.'54.
- GEE, Roy, M.Sc., Glaxo Laboratories (N.Z.) Ltd., P.O. Box 624, Palmerston North. (*Assistant Development Manager*). A.'55.
- GERSON, Thomas, M.Sc., Fats Research Laboratory, D.S.I.R., Wellington. (*Chemist*). A.'50.
- GIBBONS, Ronald Clifton, M.Sc., B.A.L.M. Paints (N.Z.) Ltd., Hutt Park Road, Lower Hutt. (*Technical Officer*). A.'39.
- GIBSON, Milton George Charles, M.Sc., Dominion Laboratory, P.O. Box 2224, Auckland. C.1. (*Chemist*). A.'57.
- GILMORE, Owen Lawry, B.A., B.Sc., Senior Lecturer, Post Primary Dept., Auckland Teachers' College, Epsom Avenue, Auckland. (*Lecturer in Science*). A.'53.
- GLENDINNING, Tom Aldrich, M.Sc., F.R.I.C., 14 Alton Street, Nelson. (*Retired*) A.'31. Hon. F.'63.
- GLOVER, Richard Brian, B.Sc.(Hons.), Ph.D.(Bristol), Dominion Laboratory, c/o Ministry of Works, Wairakei. (*Scientific Officer*). A.'61.
- GOLDING, Raymond Marshall, M.Sc., Ph.D.(Cantab.), Dominion Laboratory, Private Bag, Petone. (*Senior Scientific Officer*). A.'59.
- GOODEY, John Hill, M.Sc., Consolidated Chemicals Ltd., New Lynn, Auckland. (*Chief Chemist*). A.'53.

- GORDON, Lyndsey George McDonald, B.Sc., Takapuna Grammar School, Auckland. (*Science Teacher*). A.'62.
- CORGENYI, George Zoltan, Marrickville Holdings Ltd., P.O. Box 4, Marrickville N.S.W., Australia. A.'61.
- GRAHAM, Joseph Ivon, M.A.(Cantab.), M.Sc.(Lond.), F.R.C.Sc.I., F.Inst.F., Hon.M.I.Min.E., F.R.I.C., "The Hill", Anakiwa, Picton, R.D., Marlborough. (Retired). F.'49.
- GRANT, Peter Kemnitz, M.Sc., Ph.D.(Cantab.), Chemistry Department, University of Otago, P.O. Box 56, Dunedin. (*Lecturer*). A.'62
- GREENWOOD, Roger Michael, M.Sc., Plant Chemistry Division, D.S.I.R., Private Bag, Palmerston North (*Scientific Officer*). A.'45.
- GREGORY, Elizabeth, M.H.Sc., Ph.D.(Lond.), Home Science School, University of Otago, Dunedin. (*Retired; formerly Professor of Home Science*). A.'39; F.'43.
- GREGORY, Lloyd Patrick, B.Sc., National Radiation Laboratory, Dept. of Health, Box 1456, Christchurch. (*Chemist*). A.'50.
- GRIFFIN, Donald John, M.Sc., N.Z. School of Pharmacy, P.O. Box 177, Petone. (*Instructor in Chemistry*). A.'59.
- GRIFFIN, Kenneth Massy, M.Sc., F.R.I.C., 29 Ridings Road, Remuera, Auckland, S.E.2. (*Retired, formerly Government Analyst, Auckland*). A.'31; F.'43; Hon. F.'63.
- GRIGG, Felix John Theodore, M.Sc., F.R.I.C., 61 Friend Street, Wellington, W.3. (*Retired, formerly Director, Dominion Laboratory, and Dominion Analyst*). F.'43.
- GRIGG, John Lawrence, M.Sc., S.I. Soil Testing Station, Taieri Agriculture Centre, Private Bag, Mosgiel. (*Officer-in-Charge*). A.'44.
- GRIGOR, John Andrew, M.Sc., Aranui High School, Christchurch. (*Asst. Master*). A.'63.
- GRIMMETT, Murray Ross, M.Sc., Chemistry and Biochemistry Department, Massey University of Manawatu, Palmerston North. (*Lecturer*). A.'61.
- GRIMMETT, Robert Edmund Richard, M.Sc., 55 Cashmere Avenue, Wellington, N.5. (*Retired*). A.'31; F.'34.
- GROOM, Philip Stanley, B.Sc., Dominion Laboratory, D.S.I.R., Private Bag, Petone. (*Scientific Officer*). A.'60.
- GUMBLEY, Miss Janice Marjorie, M.Sc., Ruakura Animal Research Station, Private Bag, Hamilton. (*Scientific Officer*). A.'62.

## H

- HAGYARD, Thomas, B.Sc., Ph.D.(Lond.), M.I.Chem.E., University of Canterbury, P.O. Box 1471, Christchurch. (*Reader in Chemical Engineering*). A.'50.
- HALL, David, M.Sc., Ph.D., Chemistry Department, University of Auckland, P.O. Box 2175, Auckland. (*Associate Professor*). A.'51. F.'63.

- HALL, Ronald Berners, M.Sc., c/o N.Z. Forest Products Ltd., Private Bag, Auckland. (*Works Chemist, Penrose*). A.59.
- HALLIBURTON, Gavin Jack, M.Sc., A.N.Z.I.M., Johnson Wax (N.Z.) Ltd., P.O. Box 1673, Christchurch. (*Chemist and Factory Manager*) A.50.
- HANGER, William George, M.Sc., Ph.D.(Cantab.), Pathology Research Department, Medical School, University of Otago. (*Senior Research Officer*). A.59.
- HANSEN, Roy Penrose, B.Sc., Fats Research Laboratory, D.S.I.R., Sydney Street, Wellington. (*Principal Scientific Officer*). A.46.
- HAPPER, Duncan Alan Robert, B.Sc.(Hons.), Chemistry Department, Brown University, Providence, 12, Rhode Island, U.S.A. (*Post Doctoral Fellow*). A.62.
- HARLAND, Charles William, M.Sc., N.Z. Farmers' Fertiliser Co., 106 Mays Road, Onehunga, Auckland. (*Chief Chemist and Acid Plant Supervisor*). A.53.
- HARRALL, Edward Douglas, Christchurch Milk Co. Ltd., P.O. Box 351, Christchurch. (*Assistant Chemist*). A.59.
- HARTMAN, Leopold, M.Sc., D.Sc., B.E.Chem.(Lwow), Fats Research Laboratory, D.S.I.R., Wellington. (*Principal Scientific Officer*). A.49.
- HARTSHORN, Michael Philip, B.Sc.(Hons.), D.Phil.(Oxon.), University of Canterbury, P.O. Box 1471, Christchurch. (*Lecturer*). A.61.
- HARVEY, Mrs. Helen Elizabeth, M.Sc., 14 Churchill Drive, Wellington, N.2. A.51.
- HARVEY, William Edward, M.Sc., Ph.D.(Cantab.), Chemistry Department, Victoria University of Wellington, Box 196, Wellington. (*Senior Lecturer*). A.53.
- HAWKE, John Clement, M.Sc., Ph.D.(Cantab.), Chemistry and Biochemistry Department, Massey University of Manawatu, Palmerston North. (*Senior Lecturer*). A.59.
- HAWTHORN, John Crawford, M.Sc., Formica (N.Z.) Ltd., Papakura, Auckland. (*Technical Manager*). A.60.
- HAY, Robert Walker, B.Sc.(Hons.), Ph.D.(Glasgow), Chemistry Dept., Victoria University of Wellington, P.O. Box 196, Wellington (*Lecturer*). A.63.
- HAYWARD, John Elliott, B.Sc., Colonial Ammunition Co. Ltd., Box 8511, Upper Symonds Street P.O., Auckland. (*Chief Chemist*). A.45.
- HEALY, William Bernard, M.Sc., Ph.D.(Rutgers), Soil Bureau, D.S.I.R., Private Bag, Lower Hutt. (*Soil Chemist*). A.50.
- HEBDEN, William Herbert, B.Sc., New Zealand Foods Ltd., P.O. Box 583, Hastings. (*Development Manager*). A.50.

- HERRMANN, Mrs. Romana, M.Phil. in Chem. (Warsaw), Dominion Laboratory, D.S.I.R., Private Bag, Petone. (*Scientific Officer*). A.'51.
- HICKS, Ronald, A.R.I.C., F.I.P.H.E., F.Inst.S.P. Auckland Metropolitan Drainage Board, P.O. Box 208, Auckland, C.I. (*Chief Chemist*). A.'52; F.'63.
- HIGGINS, Desmond James, B.Sc., A.M.I.Chem.E., Kempthorne Prosser and Co.'s N.Z. Drug Co., Hornby, Christchurch. (*Chief Production Officer, All Works*). A.'50.
- HILLS, Dennis Ashley, B.Sc., Empire Rubber Mills, Woolston, P.O., Christchurch. (*Chief Chemist*). A.'60.
- HINDMARSH, William Ewan, B.Sc., Export Leather Industries Limited, Box 2352, Auckland. (*Managing Director*). A.'60.
- HITCHINGS, Terence Richard, M.Sc., Riccarton High School, Curletts Road, Christchurch. (*Senior Science Master*). A.'60.
- HOARE, John Leonard, M.Sc., Ph.D., C/o Western Regional Laboratories, U.S. Dept. of Agriculture, Albany 10, Calif., U.S.A. A.'60.
- HODDER, Ivan George, B.Sc., N.Z. Forest Products Ltd., Private Bag, Tokoroa. (*Works Chemist*). A.'50.
- HODGE, Robert Alexander Paul, B.Sc., Consolidated Chemicals Ltd., P.O. Box 15,104, Auckland. (*Assistant Chemist*). A.'62.
- HODGES, Richard, M.Sc., Ph.D.(Manc.), Ruakura Animal Research Station, Private Bag, Hamilton. (*Scientific Officer*). A.'62.
- HOE, Yuan Liang, B.E.(Chem.), B.Sc., Arthur Love Ltd., P.O. Box 13011, Auckland, S.E.5. (*Chemical Engineer*). A.'57.
- HOGAN, Denis James, B.Sc., C.O.P.(Dairy Chem. and Bact.), Dominion Laboratory, D.S.I.R., P.O. Box 2112, Christchurch. (*Senior Scientific Officer*). A.'52.
- HOGG, Donald Elvery, B.Sc., Rukuhia Soil Research Station Private Bag, Hamilton. (*Senior Scientific Officer*). A.'46.
- HOLLAND, Harold Cecil, M.Sc., Ph.D.(Leeds), F.R.I.C., W. Sutherland & Co. Ltd., P.O. Box 5026, Auckland. (*Managing Director*). F.'61.
- HOLLOWAY, John Thorpe, M.Sc., F.R.S.N.Z., Forest and Range Expt. Station, N.Z. Forest Service, Rangiora. (*Senior Principal Scientific Officer*). A.'44.
- HOLMES, Alexander Colin, B.Sc., M.I.Chem.E., The Lactose Company of N.Z. Ltd., P.O. Box 424, Hawera. (*General Manager*). A.'39.
- HOLMES, George Stevenson, M.Sc., 44 Litten Road, Howick, Auckland. (*Fletcher Industries Ltd.*). A.'44.
- HOOKER, Ronald Owen, B.Sc., T. J. Edmonds Ltd., P.O. Box 472, Christchurch. (*Chief Chemist*). A.'59.
- HOPGOOD, Raymond Henry, B.Sc., Fletcher Industries Ltd., Private Bag, Auckland (*Chemist*). A.'58.

- HORN, Alexander Huntly, M.Sc., Lincoln College, Christchurch. (*Officer-in-charge, Chemical Services*). A.'52.
- HORNE, Philip Desmond, B.Sc., N.Z. Farmers' Fertiliser Co. Ltd., P.O. Box 41, New Plymouth. (*Chief Chemist and Acid Plant Superintendent*). A.'42.
- HOUNSELL, Eric Russell, M.Sc., University of Canterbury, Box 1471, Christchurch. (*Liaison Officer*). A.'41.
- HOUSE, Donald Alexander, M.Sc., Chemistry Department, Victoria University, P.O. Box 196, Wellington. A.'61.
- HOWARD, Dene Grenville, M.Sc., Shell Oil N.Z. Ltd., P.O. Box 1084, Auckland. (*Sales Technical Adviser*). (*Temporarily overseas*). A.'46.
- HOY, Kenneth Frederick, B.Sc., Rukuhia Soil Research Station, Private Bag, Hamilton. (*Agricultural Chemist*). A.'47.
- HUBBARD, Edmund Francis, Laboratory, N.Z. Railways, Hutt Shops, Woburn. (*Chief Chemist*). A.'54; F.'62.
- HUGHSON, Walter Gordon Mackenzie, M.Sc., M.Inst.F., Dominion Laboratory, D.S.I.R., Private Bag, Petone. (*Senior Fuel Chemist*). A.'31; F.'43.
- HUCILL, Archie James, B.Sc., Ph.D.(Birm.), Scott & Bowne (Asia) Ltd., P.O. Box 124, Otahuhu, Auckland. (*Production Manager*). A.'61.
- HULLETT, Ernest William, M.Sc., Wheat Research Institute, P.O. Box 1489, Christchurch. (*Director*). A.'31; F.'43.
- HUNGERFORD, John Sealy, B.Sc., M.Inst.F., A.M.Inst.Gas.E., Wellington Gas Company Ltd., P.O. Box 6070, Wellington (*Production Engineer*). A.'55.
- HUNT, Austen Hubert, M.Sc., c/o Perfection Ice Cream Co., 300 Manchester Street, Christchurch. (*Consulting Industrial Chemist*). A.'53.
- HUNT, Ian Sinclair, M.Sc., F.R.I.C., A.I.M., A.N.Z.I.W., Chief of Division of Wood Preservation and Seasoning, National Forest Products Laboratory, Faculty of Forestry, University of the Andes, Apartado 231, Merida, Venezuela. A.'41; F.'61.
- HUNTER, George John Ernest, M.Sc., F.R.I.C., Medical School, University of Otago, Dunedin. (*Senior Lecturer in Biochemistry*). A.'40.
- HUNTER, Jack Carlyle, A.S.T.C., Stedman Henderson's Sweets Ltd., 348 Rosebank Road, Avondale, Auckland. A.'62.
- HUNTER, Maurice, B.Sc., Dairy Division, Department of Agriculture, P.O. Box 110, New Plymouth. (*Chemist*). A.'56.
- HUNTER, Maxwell Thomas, B.Sc., Christchurch Gas Co. Ltd., Moorhouse Avenue, Christchurch. (*Analyst*). A.'59.
- HURST, Frank, M.Sc., Dominion Laboratory, D.S.I.R., Private Bag, Petone. (*Principal Scientific Officer, Organic*). A.'48.

HUSHEER, Godfrey Asbjorn, B.Sc., Scientific Service Laboratories, P.O. Box 301, Napier. A.'59.

HUTCHINSON, Robert Lewis, M.Sc., Lane, Walker and Rudkin Ltd., P.O. Box 992, Christchurch. (*Chief Chemist*). A.'48.

HYATT, John Buchan, B.Sc.Agric.(Lond.), 37 Cooper Street, Karori, Wellington. (*Retired*). (A.'31).

## I

ISHERWOOD, Peter Henry, M.Sc., Lactose Co. of N.Z. Ltd., Kaponga R.D., Taranaki (*Chemist*). A.'63.

IVORY, Hugh Gordon, M.Sc., N.Z. Foods Ltd., P.O. Box 583, Hastings. (*Chief Chemist*). A.'53.

## J

JACKMAN, Richard Harry, B.Sc., Ph.D.(Iowa), Grasslands Division, D.S.I.R., Private Bag, Palmerston North. (*Principal Scientific Officer*). A.'51.

JACKSON, Barrie Edward, B.Sc., Dominion Laboratory, D.S.I.R., Private Bag, Petone. (*Senior Scientific Officer, Petroleum Products*). A.'37.

JACKSON, Douglas Wright, B.Sc., Challenge Phosphate Co., Otahuhu Auckland. (*Chief Chemist*). A.'57.

JACKSON, Miss Phyllis Rosalind, M.H.Sc., Dip.Ed., Home Science School University of Otago, Dunedin. (*Senior Lecturer*). A.'40.

JACOBSON, Paul Robert, M.Sc., Chemical Products (N.Z.) Ltd., G.P.O. Box 1955, Wellington. (*Director*). A.'52.

JAGGER, Lewis Woodhead, M.Sc., Westfield Freezing Co. Ltd., Private Bag, Auckland, C.I. (*Chemist*). A.'41.

JAKOBSSON, Bjorn Frithiof, B.E.(Chem.), B.Sc., Lever Brothers (N.Z.) Ltd., Private Bag, Petone. (*Production Manager*). A.'55.

JAMES, Lionel Harry, M.Sc., 121 Remuera Road, Remuera, Auckland, S.E.2. (*Retired*). A.'31; F.'36.

JAMIESON, Norman Danford, M.Sc., N.Z. School of Pharmacy, Central Institute of Technology, Petone. (*Tutor in Chemistry*). A.'45.

JEBSON, Richard Selwyn, B.E.(Chem.), B.Sc., A.M.I.Chem.E., Dairy Research Institute, Massey University P.O., Palmerston North (*Chemical Engineer*). A.'57.

JESSOP, Edwin Charles, A.R.I.C., Glaxo Laboratories (N.Z.) Ltd., P.O. Box 624, Palmerston North. (*Chief Analyst*). A.'51.

JOBEY, Desmond Ernest, B.A., B.Sc., Selwyn College, Auckland (*First Assistant and Head of Science Department*). A.'62.

JOHANNESON, John Ker, M.Sc., A.R.I.C., Seddon Memorial Technical College, Wellesley Street, Auckland. (*Senior Lecturer in Chemistry*). A.'46; F.'60.

- JOHNS, Alan Tutton, M.Sc., Ph.D.(Cantab.), A.R.I.C., Plant Chemistry Division, D.S.I.R., Private Bag, Palmerston North. (*Director*). A.'49; F.'60.
- JOHNSON, Alexander Lawrence, M.Sc., Chemistry Department, University of Rochester, U.S.A. A.'58
- JOHNSON, Archibald Frederick, B.Sc. (*Retired; formerly Science Master, Christchurch Boys' High School*). A.'31.
- JOHNSON, Cecil Barry, M.Sc., Chemistry Department, Victoria University of Wellington. P.O. Box 196, Wellington. (*Research Student*). A.'62.
- JOHNSON, Colin Truscott, M.Sc., Southland Co-op. Phosphate Co., P.O. Box 849, Invercargill. (*Chief Chemist*). A.'62.
- JOHNSTONE, Francis Henry George, M.B.T. Products (N.Z.) Ltd., C.P.O. Box 2106, Christchurch. (*Company Manager*). A.'31.
- JOINER, William Alexander, M.Sc., F.R.I.C., M.I.Chem.E., Head Office, D.S.I.R., P.O. Box 8018, Wellington. (*Deputy Secretary*). A.'31; F.'43.
- JONES, Brian Ogilvie, B.Sc., N.Z. Forest Products, Private Bag, Auckland. (*Chemist, Production*). A.'51.
- JONES, Clarence Desmond Burson, B.Sc., Onewhero District High School, Onewhero. (*Teacher*). A.'53.
- JONES, Ronald Sydney, M.Sc., 32 Douglas Street, Timaru. (*Science Master, Timaru Boys' High School*). A.'44.
- JUSTICE, Edmond Alexander, Dip.Ing.Chem.(Zurich), Guild Rubber Co., P.O. Box 5008, Papanui, Christchurch. (*Company Manager*). A.'39.
- K
- KELSEY, Oliver James, M.Sc., 18 Buckland Beach Road, Buckland's Beach, Auckland. A.'52.
- KENNEDY, Alister Miles, B.Sc., B.E.(Chem.), Ph.D.(Cantab.), A.M.I. Chem.E., Chemistry Department, University of Otago, Dunedin. (*Senior Lecturer in Applied Chem.*) A.'57.
- KENNEDY, John Wallace, A.G.Inst.Tech., A.R.A.C.I., N.Z. Farmers' Fertilizer Co Ltd., P.O. Box 759, Auckland. (*Works Manager*). A.'57.
- KENNEDY, Thomas Henry, M.Sc., Thyroid Research Department, Medical School, University of Otago, Dunedin. (*Chemist*). A.'39.
- KENNERLEY, Rowland Alfred, M.Sc., Dominion Laboratory, D.S.I.R., Private Bag, Petone. (*Principal Scientific Officer*). A.'50; F.'62.
- KERR, Ivan James, M.Sc., Buckley and Young Ltd., P.O. Box 2411, Wellington. (*Technical Sales Representative*). A.'62.
- KEYES, Alfred William, B.Sc., Government Transport Department, Civic Chambers, Cuba Street, Wellington. (*Engineer*). A.'31.

- KEYS, Oswald Hilton, M.Sc., A.R.I.C., Dominion Laboratory, P.O. Box 2224, Auckland. (*Government Analyst*). A.'32; F.'63.
- KIDDLE, Kenneth Walter, M.Sc., Te Mara Orchards Ltd., Box 14, Havelock North. A.'46.
- KIDSON, Elsa Beatrice, D.Sc., F.R.I.C., F.R.S.N.Z., Cawthron Institute, P.O. Box 175, Nelson. (*Senior Chemist Soil Bureau D.S.I.R., Seconded to Cawthron Institute*). A.'31; F.'43.
- KIDSON, John Oxley, M.Sc., Dip.Ed., Christchurch Boys' High School, Straven Road, Christchurch. (*Senior Science Master*). A.'39.
- KING, Donald Wilford, B.E.(Chem.), B.Sc., Dairy Research Institute, Massey University P.O., Palmerston North. (*Chief Research Engineer*). A.'61.
- KING, The Rev. Meyrick Vincent Bryan, M.Sc., 6 Etrick Street, Oamaru. (*Assistant Curate, Oamaru*). A.'36.
- KINGSFORD, Michael, M.Sc., N.Z. School of Pharmacy, Petone. (*Lecturer*). A.'59.
- KIRK, David Neville, B.Sc.(Hons.), Ph.D.(Lond.), Chemistry Department, University of Canterbury, P.O. Box 1471, Christchurch. (*Lecturer in Organic Chemistry*). A.'62.
- KITT, Watson, B.Sc., Dominion Laboratory, D.S.I.R., Private Bag, Petone. (*Scientific Officer*). A.'51.

L

- LAMB DEN, Alfred Edward, B.Sc., A.R.I.C., A.Inst.S.P., Christchurch Drainage Board, P.O. Box 406, Christchurch. (*Chief Chemist*). A.'62.
- LAMBERT, George Stanley, M.Sc., F.I.M., Hayes Metal Refineries Ltd., P.O. Box 9029, Newmarket, Auckland, S.E.I. (*Metallurgist and Works Manager*). A.'34; F.'60.
- LAMBOURNE, Sydney James, M.Sc., Dip.Ed., Department of Education, Box 4001, Hamilton. (*District Senior Inspector of Post Primary Schools*). A.'39; F.'59.
- LANCASTER, Robert Julian, M.Sc., Ruakura Animal Research Station, Private Bag, Hamilton. (*Senior Biochemist*). A.'39.
- LATIMER, Graeme Bruce, B.E.(Chem.), B.Sc., Engineering and Physics Dept., Massey University of Manawatu, Palmerston North (*Lecturer*). A.'61.
- LAW, Brunel Robert, A.R.A.C.I., c/o P.O. Box 2503, Wellington. (*Retired formerly Managing Director and Deputy Chairman, I.C.I. (N.Z.) Ltd.*). A.'53.
- LAW, Norman Heyworth, M.Sc., F.R.I.C., Meat Industry Research Institute of N.Z. (Inc.), P.O. Box 617, Hamilton. (*Director*). A.'47; F.'50.

- LAWRENCE, Gilbert Alexander, B.Sc., F.R.I.C., Chemical Service Laboratory, Johnsonville. (*Chairman Directors, H. W. Lawrence and Son Ltd.*). A.'31; F.'35; Hon. F.'63.
- LAWRENCE, Robert Charles, B.Sc.,(Hons.)(Lond.), Dairy Research Institute, Massey University P.O., Palmerston North. (*Biochemist*). A.'58.
- LAWRY, Robert Courtney, M.Sc., Brightwater, Nelson. (*Managing Director, W. L. Lawry Ltd., Lime Manufacturers*). A.'44.
- LEESE, Ernest, 76 Russell Road, Whangarei. (*Consultant Cement-Concrete and Allied Products*). A.'33; F.'34.
- LEIGHTON, Francis Royden, B.Sc.(Pretoria), N.Z. Co-operative Dairy Co., Box 459, Hamilton. (*Senior Assistant Chemist*). A.'59.
- LEONARD, John Henry, M.Sc., N.Z. Forest Products Ltd., Private Bag, Auckland. (*Research Chemist*). A.'60.
- LE QUESNE, Philip William, M.Sc., Chemistry Department, University of Auckland, P.O. Box 2175, Auckland. (*Ph.D. Student*). A.'62.
- LEVER-NAYLOR, Peter, B.Sc., The Nestle Company (Australia) Ltd., 17 Foveaux Street, Sydney, N.S.W. A.'49.
- LEVIEN, Miss Barbara Joan, M.Sc., Chemistry Department, University of Western Australia, Perth, W.A. A.'46.
- LEWIN, Arthur Harry, B.Sc., Cadbury Fry Hudson Ltd., Castle Street, Dunedin. (*Chemist*). A.'53.
- LINZEY, John Trevillian, B.Sc., McSkimming Industries Ltd., P.O. Box 2001, Dunedin. (*Chief Chemist*). A.'44.
- LLEWELLYN, Donald Rees, D.Sc., D.Phil., F.R.I.C., Chemistry Department, University of Auckland, P.O. Box 2175, Auckland (*Professor of Chemistry, Director of Chemical Laboratories, and Special Assistant to the Vice-Chancellor*). F.'58.
- LLEWELLYN, Frederick John, B.Sc., Ph.D., D.Sc., Hon. LL.D.(Canterbury), F.R.I.C., F.R.S.A., Chairman, University Grants Committee, P.O. Box 8035, Wellington. F.'47.
- LOCKER, Ronald Harry, M.Sc., Ph.D., Meat Industry Research Institute of N.Z. (Inc.), Box 617, Hamilton. (*Biochemist*). A.'50.
- LOCKHART, Douglas Watson, M.Sc., King's High School, Bay View Road, Dunedin. (*Senior Physics Master*). A.'54.
- LOE, John Anthony, M.Sc., N.Z. Forest Products Ltd., Private Bag, Tokoroa. (*Chlorine and Bleach Plant Manager*). A.'55.
- LONG, Miss Anwyn Margaret, M.Sc., I.C.I.A.N.Z., Central Research Laboratories, Newson Street, Ascot Vale, Victoria, Australia. (*Research Officer*). A.'58.

- LONG, Mervyn Allan, M.Sc., Chemistry Dept., Auckland University, P.O. Box 2175, Auckland. (*Junior Lecturer*). A.'63.
- LONGBOTTOM, Herbert Leslie, B.Sc.(Melb.), B.Sc., Glendermid Ltd., P.O. Box 40, Dunedin. (Tanners and Leather Merchants). (*Managing Director*). A.'38.
- LONSKA, Mrs. Maria, Ph.D.(Kharkov), S. W. Peterson and Co. Ltd., 165 Vivian Street, Wellington, C.2. (*Chemist*). A.'52.
- LYTTLETON, John Westcote, M.Sc., Ph.D.(Lond.), Plant Chemistry Division, D.S.I.R., Private Bag, Palmerston North. (*Senior Chemist*). A.'52; F.'63.

## M

- McANELLY, Francis Patrick, B.Sc., Shell Co. N.Z. Ltd., Central Laboratory, Wellington. (*Chemist in Charge*). A.'58.
- McCABE, William James, B.Sc., Radiochemical Research Laboratory, The Grove, Wantage, Berks, England. (*Research Fellow*). A.'57.
- McCCHESNEY, John William, M.Sc., 8 Alison Crescent, Dunedin, N.W.1. (*Head of Science Dept., Otago Boys' High School*). A.'51.
- McCLURE, Denis, M.P.S., Hon.F.N.Z.I.M., D. McClure and Associates, P.O. Box 15,036, New Lynn, Auckland. (*Principal*). A.'49.
- McCOACH, Hugh Joseph, M.Sc., B.D.S., 100 Broadway Ave., Palmerston North. (*Dental Surgeon*). A.'63.
- McCOMBS, Terence Henderson, M.Sc., A.R.I.C., Cashmere High School, Rose Street, Christchurch, S.W.1. (*Headmaster*). A.'31; F.'59.
- McCONNON, Peter Alan, M.Sc., Mainland Products Ltd., P.O. Box 397, Dunedin. (*Manager*). A.'54.
- McCRAW, Ralph Henry, M.Sc., The Lactose Co. of N.Z. Ltd., Kaponga, R.D., Taranaki. (*Assistant Chemist*). A.'58.
- McCURDY, Alan Underwood, B.A., B.Sc., Post-Primary Department, Teachers' College, Christchurch. (*Senior Lecturer in Chemistry*). A.'61.
- McDONALD, Ian Robert Clark, M.Sc., A.R.I.C., Dominion Laboratory, D.S.I.R., Private Bag, Petone. (*Principal Scientific Officer*). A.'50.
- McDOWALL, Frederick Henry, O.B.E., M.Sc., D.Sc.(Lond.), F.R.S.N.Z., The Dairy Research Institute (N.Z.), Massey University P.O., Palmerston North. (*Chief Chemist and Deputy Director*). F.'45.
- McDOWALL, Ian Campbell, M.Sc., School of Architecture, University of Melbourne (*Research Fellow in Ceramics*). A.'45.
- McDOWELL, Arthur Keith Ralph, M.Sc., A.R.I.C., The Dairy Research Institute (N.Z.), Massey University P.O., Palmerston North. (*Chemist*). A.'31; F.'50.

- McGILLIVRAY, William Anderson, D.Sc., Ph.D., The Dairy Research Institute (N.Z.), Massey University P.O., Palmerston North. (*Chief Bacteriologist*). A.'44; F.'52
- McGIMPSEY, James Raymond, M.Sc., A.M.I.Chem.E., A.R.I.C., Davis Gelatine (N.Z.) Ltd., Connal Street, Woolston, Christchurch. (*Production Manager*) A.'51.
- McINTOSH, Ian Gordon, B.Sc., Wallaceville Animal Research Station, Private Bag, Wellington. (*Senior Principal Scientific Officer*). A.'36.
- McKEE, Tasman Joseph, B.Sc., M.Aust.I.M.M., Fruitgrowers' Chemical Co. Ltd., Lime and Marble Ltd., and Buller Uranium Ltd., Port Mapua, Nelson. (*Managing Director*). A.'46.
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- SEWELL, Owen Keith, M.Sc., Ph.D.(Birm.), A.R.I.C., Ivon Watkins Ltd., Buller Street, New Plymouth. (*Chief Chemist*). A.'48.
- SHAND, Allan Douglas, B.Sc., B.Agr.Sc., A.N.Z.I.M., D. H. Brown and Son, Christchurch. (*Technical Manager*). A.'54.
- SHEAT, David Edwin Gordon, M.Sc., Ph.D.(Manc.), Botany Department, University of Canterbury, P.O. Box 1471, Christchurch. (*Senior Lecturer*). A.'60.
- SHEAT, Sylvia Vine, M.Sc., Chemistry Department, University of Auckland, P.O. Box 2175, Auckland. (*Temporary Junior Lecturer*). A.'62.
- SHEPHERD, Ronald Henry, M.Sc., A.M.N.Z.E.I., Imperial Chemical Industries (N.Z.) Ltd., P.O. Box 1592, Wellington. (*Technical Officer*). A.'46.
- SHORLAND, Francis Brian, O.B.E., M.Sc., Ph.D.(Liv.), D.Sc.(Liv.), F.R.S.N.Z., Fats Research Laboratory, D.S.I.R., Wellington. (*Director*). A.'33; F.'43.
- SIEMON, Stanley Robert, B.Sc.(Queensland), M.App.Sc.(Queensland), M.I.Chem.E., A.R.A.C.I., University of Canterbury, P.O. Box 1471, Christchurch. (*Professor of Chemical Engineering*). A.'44; F.'58.
- SIMPSON, William Stanley, M.Sc., Ph.D.(Leeds), Dominion Laboratory, Private Bag, Petone. (*Chemist, Wool Research Assn.*). A.'61.

- SINCLAIR, Robert Malcolm, M.Sc., Dominion Laboratory, D.S.I.R., Private Bag, Petone. (*Principal Scientific Officer*). A'47.
- SINHA, Anandi Prasad, Vill Sosandi, P.O. Sonsa, Patna District, Bihar State, India. (A'61).
- SIRETT, Nancy Elliot, B.Sc., Endocrinology Research Unit, Medical School, P.O. Box 913, Dunedin. (*Research Officer*). A'61.
- SKELTON, Charles Derek, M.Sc., Auckland Public Hospital (*Manager, Intravenous Solutions*). A'60.
- SLATER, Stanley Nelson, M.Sc., D.Phil.(Oxon.), F.R.I.C., Chemistry Department, Victoria University of Wellington, P.O. Box 196, Wellington. (*Professor of Chemistry*). A'38; F'49.
- SLEEMAN, Geoffrey Russel, M.Sc., Chemical Products (N.Z.) Ltd. (*Director*). A'60.
- SMITH, Mrs. Jane Birch, B.H.Sc., Queen's University, Kingston, Ontario, Canada. A'62.
- SMITH, Michael Francis, M.Sc., Shell Oil N.Z., Ltd., P.O. Box 2091, Wellington. (*Industrial Chemist*). A'58.
- SMITH, Robert Frederick, M.Sc., Queen's University, Kingston, Ontario, Canada. (*Ph.D. Student*). A'62.
- SNELL, Wynne Arbuthnot, B.Sc., N.Z. Co-op Rennet Co. Ltd., P.O. Box 57, Eltham. (*Chief Chemist*). A'57.
- SOMERVILLE, William Campbell, B.Sc.(Hons.)(Edin.), Ph.D.(Edin.), Chemistry Department, University of Otago, P.O. Box 56, Dunedin. (*Part-time Lecturer*). A'61.
- SOPER, Frederick George, C.B.E., Ph.D., D.Sc.(Wales), F.R.I.C., F.R.S.N.Z., (*Retired*). Formerly vice-Chancellor, University of Otago, Dunedin. F'36.
- SOUTHWARD, Charles Ramsey, M.Sc., N.Z. Fertiliser Research Association, Otahuhu, Auckland. (*Research Chemist*). A'62.
- SPACKMAN, Leonard Storkey, 501 R.S.A. Buildings, High Street, Auckland, C.I. (*Public Analyst and Consulting Chemist*). A'31.
- SPEEDING, David John, M.Sc., Chemistry Dept., University of Wellington, P.O. Box 196, Wellington. (*Ph.D. Student*). A'63.
- SPROTT, Thomas James, M.Sc., Ph.D., 53 King George Avenue, Auckland, S.E.3. (*Consultant*). A'48.
- SPROTT, William, M.Sc., M.B., Ch.B., 210A Queen Street, Onehunga, Auckland, S.E.5. (*Medical Practitioner*). A'45.
- STACE, Gordon Walter, Dominion Laboratory, D.S.I.R., P.O. Box 2224, Auckland, C.I. (*Senior Scientific Officer*). A'41;
- STACEY, Donald Louis, B.Sc., N.Z. Forest Products Ltd., Kinleith, P.O. Box 14, Tokoroa. (*Pulp Mill Manager*). A'45.

- STANLEY, Bernard George, M.Sc., A. C. Hatrick (N.Z.) Ltd., P.O. Box 5, Tawa, Wellington. (*Assistant General Manager*). A.'49.
- STANSFIELD, Roger Henry John, 56 Buckland Road, Mt. Roskill, Auckland, S.2. A.'51.
- STAPLES, Kenneth William, B.Sc., N.Z. Forest Products Ltd., Private Bag, Tokoroa. (*Chemist*). A.'57.
- STEDMAN, Brian Maurice, M.Sc., N.Z. Refrigerating Co. Ltd., Islington, Private Bag, Christchurch. (*Assistant Chemist*). A.'49.
- STEWART, Martin Louis Huerpfner, M.Sc., F.R.I.C., 31 Witako Street, Lower Hutt. (*Retired*). A.31; F.'39
- STEWART, Rex George, M.Sc., A.R.I.C., Wool Industries Research Institute, 444 George Street, Dunedin. (*Research Officer*). A.'61.
- STONE, Harry McEwen, M.Sc., C.O.P. Dairy Chemistry and Dairy Bacteriology, Dominion Laboratory, D.S.I.R., Private Bag, Petone. (*Senior Scientific Officer*). A.'52.
- STONYER, Cyril Lester Haste, B.Sc., Tasman Vaccine Laboratory Ltd., P.O. Box 29, Upper Hutt. (*Industrial Chemist, Chemical Products Department*). A.'46.
- STOTT, James Boothroyd, Ph.D.(Leeds), Coal Mining Research Department, University of Otago, Dunedin, N.1. (*Senior Lecturer*). A.'54.
- STRANG, William Ritchie, M.Sc., Shell Oil (N.Z.) Ltd., P.O. Box 2091, Wellington. (*Sales Chemist*). A.'63.
- SUMMERVILLE, Oscar, B.Sc., Solway Products, 23 Patrick St., Auckland, S.E.5. (*Chemist*). A.'59.
- SUTCLIFFE, Eric Raymond, B.Sc., Dominion Laboratory, P.O. Box 562, Dunedin. (*Scientific Officer*). A.'63.
- SUTHERLAND, Arthur John, A.M.T.C., Hutt Valley Memorial Technical College, Buick Street, Petone. (*Head of Science Department*). A.'58.
- SUTHERLAND, Graeme John, M.Sc., Chemistry Department, University of Canterbury, P.O. Box 1471, Christchurch. (*Ph.D. Student*). A.'62.
- SUTHERLAND, James Nelson, M.Sc., C.O.P. (Bact. and Clin. Path.), King Edward Technical College, Dunedin. (*Science Master*). A.'40.
- SUURING, Mrs. Dora, Cand. and Doct. Exam.(Amsterdam), A.R.I.C., Onslow College, Johnsonville. (*Science Teacher*). A.'54.
- SWAN, William Gourlie, M.Sc., Cashmere High School, Christchurch, 2. (*Head of Chemistry Dept.*). A.'63.
- SWANEY, Alan Harding, B.Sc., A. C. Nottingham & Co. Ltd., P.O. Box 1, Christchurch. (*Chemist*). A.'47).
- SWEDLUND, Bernard Eskil, M.Sc., Ph.D.(Lond.), Chemistry Department, University of Auckland. (*Lecturer*). A.'47.

- SWEETMAN, Brian Jack, M.Sc., Ph.D., Division of Protein Chemistry C.S.I.R.O., 343 Royal Parade, Parkville, N.2 Victoria, Australia. (*Research Officer*). A.'61.
- SWINDALE, Leslie Denis, M.Sc., Ph.D. (Wisconsin), Dept. of Soil Science, University of Hawaii. Honolulu 14, Hawaii, (*Professor of Soil Science*). A.'51; F.'63.
- SYMES, Langford Park, Canterbury Frozen Meat Co. Ltd., Box 2, Belfast, Christchurch. (*Retired, former Chief Chemist*). A.'31; Hon.F.'59.
- T**
- THOMAS, Alfred John, B.Sc., 21 West Road, Northland, Wellington. A.'46.
- THOMAS, Brian Russell, M.Sc., Ph.D.(Lond.), Dominion Laboratory, Private Bag, Petone. (*Principal Scientific Officer*). A.'61.
- THOMPSON, Frank Burnhope, M.Sc. Rukuhia Soil Research Station, Private Bag, Hamilton. (*Principal Scientific Officer*). A.'33.
- THOMPSON, Mrs. Megan, M.Sc., Chemistry Department, University of Auckland, P.O. Box 2175, Auckland. (*Temporarily overseas*). A.'61.
- THOMPSON, Robert Leslie, M.Sc., Mobil Oil New Zealand Ltd., P.O. Box 2497, Wellington. (*Manager, Special Products*). A.'50.
- THOMSON, Alexander Lewis, M.Sc., Ph.D., Polymers (N.Z.) Ltd., Saleyards Road, Otahuhu, Auckland. (*Factory Manager*). A.'53; F.'63.
- THOMSON, Cullen William, B.Sc., Fletcher Industries Ltd., P.O. Box 973, Dunedin. (*Works Chemist*). A.'60.
- THOMSON, Mrs. Eileen Mera, B.A., B.Sc., B.H.Sc., 163 Carroll Street, Dunedin, C.2. A.'39.
- THOMSON, Helen Marion Sheila, M.H.Sc., Ph.D.(Leeds), 32 Wai iti Terrace, Christchurch. (*Retired; formerly Senior Lecturer in Textile Chemistry, University of Otago*). A.'39.
- THOMSON, Thomas Alexander, B.Sc., 163 Carroll Street, Dunedin, C.2. (*Director, Thomson's Ltd., Bond Street, Dunedin*). A.'39.
- THORP, John Martin, B.Sc.(Hons.), Ph.D.(Lond.), Chemistry Department, Auckland University, P.O. Box 2175, Auckland. (*Senior Lecturer, Physical Chemistry*). A.'60.
- TILLER, Leslie Walter, B.Sc., Head Office, D.S.I.R., Box 8018, Wellington. (*Assistant Secretary*). A.'45.
- TILLY, Clifton Roberts, B.A., B.Sc., Huntly College, Huntly. (*Head of Science Department*). A.'54.
- TINGEY, John Murray Campbell, B.Sc., 20 Cavenish Square, Wellington, E.5. (*Technical Director, Messrs. R. & E. Tingey Ltd., P.O. Box 545, Wellington; Oil and Colour Merchants*). A.'44.

- TODD, Harry Jackson, B.Sc.(Lond.), Dominion Laboratory, D.S.I.R., P.B., Petone. (*Principal Scientific Officer, Spectrography*). A.'51.
- TOPSOM, Ronald David, M.Sc., Ph.D.(London), Chemistry Department, University of Canterbury, P.O. Box 1471, Christchurch. (*Senior Lecturer in Organic Chemistry*). A.'59.
- TOTHILL, Thomas Webb Compton, B.Sc., Kennedy's Bush Road, Halswell, Christchurch. (*Retired*). A.'31.
- TSE, Sydney Arthur, M.Sc., Fats Research Laboratory, P.O. Box 8021, Wellington. (*Scientific Officer*). A.'63.
- TUCKER, David Harry, B.Sc., B.E.(Chem.), A.S.E.A. Electrical N.Z. Ltd., P.O. Box 3239, Wellington. A.'62.
- TURNER, Alan Arthur, B.Sc., Shell Oil (N.Z.) Ltd., P.O. Box 1084, Auckland (*Sales Technical Adviser*). A.'61.
- TURNER (Mrs.), Iivi-Rect, M.Sc., 59 Valley Road, Mt. Eden, Auckland. A.'61.
- TURNEY, Thomas Albert, M.Sc., Chemistry Department, University of Auckland, P.O. Box 2175, Auckland. (*Senior Lecturer*). A.'57.

## U

- UNDERHILL, Roger, B.Sc.(Bristol), 109 Greenhill Road, Blackheath, Birmingham, England. A.'53.

## V

- VAUGHAN, John, M.Sc.(Wales), Chemistry Department, University of Canterbury, P.O. Box 1471, Christchurch (*Professor of Chemistry*). A.'50; F.'59.
- VERE-JONES, Noel Waterman, B.Sc.(Lond.), M.I.Chem.E., Dip.Chem.Eng., 8 Makererua Street, Wellington, N.Z. (*Retired*). A.'49.
- VIVIAN, Gerald Wilfred, M.Sc., Ph.D.(Leeds), N.Z. Leather and Shoe Research Association, Private Bag, Lower Hutt. (*Deputy Director*). A.'49.
- VOSE, Wilfred, B.Sc.(Lond.), A.R.I.C., A.C.C.I., Winstone Ltd., Ceramics Division, P.O. Box 395, Auckland. (*General Manager*). Huntly Brick Co. Ltd., P.O. Box 14, Huntly. (*Managing Director*). A.'48.

## W

- WALKER, Ian Kenneth, M.Sc., D.Sc., Dominion Laboratory, D.S.I.R., Private Bag, Petone. (*Director*). A.'39; F.'62.
- WALKER, John Richard Laurence, B.Sc., Ph.D.(Leeds), Cawthron Institute, P.O. Box 175, Nelson. (*Biochemist*). A.'57.
- WALKER, Robert Douglas, 3 Hardwicke Street, Sumner, Christchurch 8. (*Managing Director, Bradford Dye Works*). A.'62.

- WALKER, Thomas William, B.Sc.(Hons.), Ph.D., D.Sc.(Lond.), A.R.C.S., D.I.C., Lincoln College P.O., Christchurch. (*Professor of Soil Science*, F.'61.
- WALLACE, Garth Morton, B.Sc., C.O.P. (Bact. and Dairy Chem.), Food Technology Department, Massey University of Manawatu, Palmerston North. (*Senior Lecturer*). A.'49; F.'57.
- WARD, Miss Margaret Annie, B.Sc.(Lond.), A.R.I.C., S. W. Peterson & Co. Ltd., 165 Vivian Street, Wellington, C.2. (*Chief Chemist*). A.'52.
- WATERS, Desmond Frederick, M.Sc., Rukuhia Soil Research Station, Private Bag, Hamilton. (*Principal Scientific Officer*). A.'31.
- WATERS, Mrs. Joyce Mary, M.Sc., Ph.D., University of Auckland, P.O. Box 2175, Auckland. (*Lecturer*). A.'60.
- WATERS, Thomas Neil Morris, M.Sc., Ph.D., Chemistry Department, University of Auckland, P.O. Box 2175, Auckland. (*Senior Lecturer*). A.'56.
- WATSON, Charles Colin, M.Sc., N.Z. Breweries Ltd., P.O. Box 211, Wellington. (*Senior Chemist*). A.'54.
- WATSON, Ian Douglas, M.Sc., Chemistry Dept. Otago University, P.O. Box 56, Dunedin (*Asst. Lecturer*). A.'63.
- WATSON, Miss Joyce, M.Sc., A.R.I.C., Cawthron Institute, P.O. Box 175, Nelson. (*Research Chemist*). A.'43.
- WEENINK, Ronald Owen, B.Sc., Fats Research Laboratory, P.O. Box 8021, Wellington. (*Scientific Officer*). A.'63.
- WEIR, Alan James, J.P., B.Sc., A.R.A.N.Z., Massey University of Manawatu, Palmerston North. (*Registrar*). A.'59.
- WELCH, Barry John, M.Sc., Ph.D., School of Chemical Technology, University of New South Wales, P.O. Box 1, Kensington, N.S.W., Australia. (*Lecturer*). A.'59.
- WELLS, Norman, B.Sc., Soil Bureau, D.S.I.R., Private Bag, Lower Hutt. (*Chemist*). A.'57.
- WERRY, Chace Chenoweth, E.D., B.A., B.Sc., c/o 411 Southland Road, Hastings. (*Retired*). A.'34.
- WEST, William Harold, M.Sc., Emolemu (N.Z.) Ltd., Penrose, Auckland. A.'52.
- WESTON, Claude Warwick, B.Sc., Imperial Chemical Industries (A.N.Z.) Ltd., Botany Factory, Matraville, N.S.W., Australia. A.'47.
- WESTON, Rodney Malcolm, B.Sc., Carmac Industrial Investments Ltd., P.O. Box 13-115, Onchunga, Auckland. (*Chemist and Factory Manager*). A.'62.
- WHILLANS, Douglas, B.Sc., C.O.P. (Bact. and Clin. Path.), Central Laboratory, Public Hospital, Park Road, Auckland, C.3. (*Hospital Technologist*). A.'42; F.'63.

- WHITE, Edwin Percy, M.Sc., D.Sc., Ruakura Animal Research Station, Private Bag, Hamilton. (*Senior Principal Scientific Officer*). A.'38; F.'61.
- WHITE, Graham Richard, M.Sc., Chemistry Department, University of Auckland, P.O. Box 2175, Auckland. (*Lecturer*). A.'61.
- WHITE, Ralph Richard, B.Sc., A.I.M.L.T., University of New England, Armidale, N.S.W., Australia. (*Chemist*). A.'52.
- WHITE, Stanley Weston, B.Sc., Linwood High School, Aldwins Road, Christchurch. (*Assistant Master*). A.'54.
- WHITEHEAD, Hugh Robinson, D.Sc.(Leeds), F.R.S.N.Z., The Dairy Research Institute (N.Z.), Massey University P.O., Palmerston North. (*Director*). A.'52.
- WHITTON, William Ivo, M.Sc., Ph.D., F.R.A.C.I., I.C.I.A.N.Z. Ltd., Research Dept., Newson St., Ascot Vale, Vic., Australia. (*Research Manager*). F.'61.
- WICK, William Samuel Henry, B.Sc., Ranfurly Street, Runanga, via Greymouth. (*Head of Science Department, Technical High School, Greymouth*). A.'44.
- WICKEN, Anthony John, B.A.(Hons.)(Cantab.), B.Sc.(Hons.), Ph.D. (Capetown), A.R.I.C., Dept. of Animal Science, Biochemistry Division, Lincoln College, P.O. Christchurch. (*Lecturer*). A.'63.
- WIGGINS (Mrs.), Philippa Marion, M.Sc., Ph.D.(Lond.), Dept. of Physiology, Medical School, P.O. Box 913, Dunedin. (*Research Officer*). A.'59.
- WILKINS, Brian Joseph, M.Sc., c/o Naenae College, Lower Hutt. (*Science Teacher*). A.'59.
- WILKINS, Cuthbert John, M.Sc., Ph.D.(Lond.), D.I.C., Chemistry Department, University of Canterbury, P.O. Box 1471, Christchurch. (*Reader*). A.'44.
- WILKINSON, Leslie, M.Sc., Dominion Laboratory, P.O. Box 2112, Christchurch. (*Principal Scientific Officer*). A.'39; F.'62.
- WILKS, Clyde Bannister, M.Sc., A. M. Satterthwaite & Co. Ltd., P.O. Box 1166, Wellington. (*Chemical Sales Representative*). A.'59.
- WILL, Graham Melville, M.Sc., Forest Research Institute, Private Bag, Whakarewarewa, Rotorua. (*Chemist*). A.'51.
- WILLIAMS (Mrs.), Allette Louise, M.Sc., D.I.C., 7 Baroda Street, Khandallah, Wellington, N.5. A.'55.
- WILLIAMS, Mrs. Mary Patricia, B.Sc., C.O.P.H.L.P., 56 Howard Road, Point Howard, Wellington. A.'58.
- WILLIAMS, Peter Prior, M.Sc., Ph.D.(Cantab.), A.Inst.P., Dominion Laboratory, D.S.I.R., Private Bag, Petone. (*Principal Scientific Officer*). A.'56.

- WILLIAMS, William, c/o R. & W. Hellaby Ltd., Quay Street, Auckland. (*Chief Chemist*). A.'33; F.'34.
- WILLIAMS, Xandra Kathleen, B.Sc.(Hons.)(Lond.), A.R.C.S., Chemistry Dept., University of Otago, P.O. Box 56, Dunedin. (*Scientific Officer, N.Z. Geological Survey*). A.'63.
- WILLIAMSON, Arthur Gordon, M.Sc., Ph.D.(Reading), Chemistry Department, University of Otago, P.O. Box 56, Dunedin. (*Lecturer*). A.'61.
- WILLIAMSON, Hudson Miles, B.Sc., Ministry of Works Laboratory, Lower Hutt. (*Chemist, Highway Materials*). A.'45.
- WILLS, Barthrop David, A.R.I.C., Ivon Watkins Ltd., P.O. Box 144, New Plymouth. (*Analytical Chemist*). A.'63.
- WILSON, Alexander Thomas, M.Sc., Ph.D.(California), Victoria University of Wellington, P.O. Box 196, Wellington. (*Senior Lecturer in Chemistry*). A.'59.
- WILSON, Arthur David, M.Sc., A.M.I.Chem.E., The Lactose Company of New Zealand Ltd., Box 20, Edendale, Southland. (*Branch Manager*). A.'52.
- WILSON, Ashley Francis, M.Sc., Ph.D., c/o Research Department, Candian Celanese, Co. Ltd., Drummondville, Quebec, Canada. A.'55.
- WILSON, Kenneth William, B.Sc., Dominion Yeast Co. Ltd., P.O. Box 10, Auckland. (*Manager*). A.'56.
- WILSON, Margaret Nellie, B.Sc., B.H.Sc., Home Science School, University of Otago, P.O. Box 56, Dunedin. (*Lecturer in the Chemistry of Foods*). A.'61.
- WILSON, Stuart Henry John, M.Sc., Kaitawa Road, York Bay, Eastbourne. (*Scientific Officer*). Institute of Nuclear Science, Private Bag, Lower Hutt. F.'58.
- WILSON, Thomas Henry, Chemistry Department, University of Auckland, P.O. Box 2175, Auckland, C.I. (*Technical Officer*). A.'53.
- WILSON, William Joseph, M.Sc., Research Laboratories, Fraser Companies Ltd., Atholville, New Brunswick, Canada. (*Chemist*). A.'49.
- WONG, Edmon, M.Sc., Ph.D., Plant Chemistry Division, D.S.I.R., Private Bag, Palmerston North. (*Senior Scientific Officer*). A.'56.
- WONG, Leslie Chiu-Kai, M.Sc., 120(a) Gordon Road Mosgiel. (*Research Officer, N.Z.M.R.C.*). A.'57.
- WOOD, Herbert, John, B.Sc., F.R.I.C., Dominion Laboratory, D.S.I.R., Private Bag, Petone. (*Principal Scientific Officer, Food*). A.'33.
- WOOD, John Milton, M. Sc., A.M.I.Chem.E., The Lactose Co. of N.Z. Ltd., Kaponga, R.D., Taranaki. (*Industrial Chemist*). A.'51.
- WOODS, Miss Nesta Madeline, M.Sc., 23 Orbell Street, Dalmore, Dunedin. (*Retired*). A.'39.

- WOODWARD, Ronald Newall, A.M.C.T., F.R.I.C., Institute of Nuclear Sciences, Private Bag, Lower Hutt. (*Scientific Officer*). F.'53.
- WOOFF, Alan Herbert, B.Sc., Dip.Ind.Chem., Christchurch Boys' High School, Straven Road, Christchurch. (*Science Master*). A.'61.
- WOOLMAN, Harold George, B.Sc.(Manc.), Dip.Ed.(Belfast), A.M.I.Chem.E., A.R.I.C., P.O. Box 19,046, Avondale, Auckland. (*Director, Reckitt & Colman (New Zealand) Ltd.*). A.'40.
- WRATISLAV, Arnost, Ing.(Prag.), Ivon Watkins Ltd., P.O. Box 144, New Plymouth. (*Technical Production Manager*). A.'56.
- WRIGHT, Douglas Elliot, M.Sc., Ph.D., Lincoln College P.O., Christchurch. (*Senior Lecturer in Biochemistry*). A.'59.
- WRIGHT, Evan Wilfrid, M.Sc., Ph.D., Wallaceville Animal Research Station, Private Bag, Wellington. (*Biochemist*). A.'46.
- WRIGHT, Graeme John, B.Sc.(Hons.), Chemistry Department, University of Canterbury, P.O. Box 1471, Christchurch. (*Lecturer*). A.62.
- WRIGHT, Graham Allen, M.Sc., D.Phil.(Oxon.), Chemistry Department, University of Auckland, P.O. Box 2175, Auckland. (*Lecturer*). A.'62.
- WRIGHT, Nevill Lushanus, F.R.I.C., D.I.C., P.O. Box 191, Takapuna, Auckland. (*Technical Consultant*). F.'45.
- WUNSCH, Donald Frederick Sandys, O.B.E., M.A. (Oxon.), B.Sc.(McGill), M.I.Chem.E., A.I.M.M., 3 Barton Street, New Plymouth. F.'44.
- WYLLIE, Stuart Grant, M.Sc., Chemistry Dept., University of Otago, P.O. Box 56, Dunedin. (*Asst. Lecturer*). A.'63.

## Y

- YOUNG, Jason Carmel, B.Sc., Dip. Ind. Chem., Kempthorne Prosser Hornby Chemical Works, P.O. Box 5500, Christchurch. (*Works Chemist*). A.'62.

## MEMBERS OF R.I.C. ONLY

- BAKER, Alfred Francis, M.Sc., A.R.I.C., Hillmorton High School, Tankerville Road, Christchurch. (*Senior Science Master*).
- BLENKINSOP, Brian Keith, B.Sc.(Birm), A.R.I.C., Dominion Breweries Ltd., P.O. Box 1659, Auckland. (*Assistant Manager (Production)*).
- BROGAN, Francis Joseph, M.Sc., A.R.I.C., Saint Patrick's College, Silverstream, Heretaunga.
- CAMERON, Miss M. D., B.Sc., Ph.D., A.R.I.C., c/o Dr Earle, 441A Victoria Street, Hamilton
- COSTER, David Gordon, M.Sc., A.R.I.C., 8 Rochford Place, Christchurch, N.W.1. (*District Manager, Standard Vacuum Oil Co. (N.Z.) Ltd.*)
- GALVIN, Hubert Patrick Caldicott, A.R.I.C., E.S. and A. Robinson (N.Z.) Ltd., P.O. Box 2227, Auckland.
- HILLS, B. A., M.A., A.R.I.C., Revertex (N.Z.) Ltd., P.O. Box 12077, Penrose, Auckland.
- HOLMES, George Andrew, B.Agric., M.Sc., A.R.I.C., Invermay Agriculture Research Station, Taieri. (*Station Superintendent*).
- HOOK, Rexford George, B.Sc.(Sydney), A.R.I.C., 23 Bingley Avenue, Epsom, Auckland.
- MINSON, D. J., B.Sc., Ph.D., A.R.I.C., Ruakura Animal Research Station, P.B., Hamilton.
- RAESIDE, James Dickie, M.Sc., A.R.I.C., Soil Bureau, D.S.I.R., P.O. Box 733, Dunedin. (*Pedologist*).
- RATCLIFFE, Norman, F.R.I.C., 45 Stanley Avenue, Palmerston North. (*Retired*).
- ROSS, F. M., B.Sc., A.R.I.C., N.Z. Forest Products Ltd., Tokoroa.
- SHEPHEARDSON, Frederick George, B.Sc.(Lond.), D.Sc.(N.U.I.), F.R.I.C., A.R.C.S., Munroe Road, Henderson, R.D.1., Auckland. (*Retired Industrial Research Chemist*).
- STEVENSON, Miss Audrey Elizabeth Gribb, B.Sc.(St. Andrews), F.R.I.C., Ruakura Animal Research Station, Private Bag, Hamilton. (*Scientific Officer*).
- STORY, Leonard Frederick, B.Sc., Ph.D.(Lond.), A.R.I.C., N.Z. Wool Industries Research Institute, George Street, Dunedin. (*Director of Research*).
- TILLER, Mrs. Mavis, B.Sc.(Lond.), A.R.I.C., 7 Thorby Street, Wellington.
- WALKER, Claud Lawless, A.R.I.C., Pinchin Johnson Ltd., Miramar, Wellington. (*Chemist*).
- UDY, Ward Howard, B.Sc.(Lond.), A.R.I.C., 8 Union Street, Hamilton. (*Retired, formerly Laboratory Superintendent, N.Z. Co-op Dairy Co. Ltd.*)

## BRANCH NEWS AND NOTES

### AUCKLAND BRANCH

Professor A. E. Alexander, who is from the University of Sydney and was guest lecturer at this year's conference, addressed the August meeting of the branch on "The Surface Chemistry of Proteins".

Mr R. Hicks, chief chemist and treatment works superintendent of the Auckland Metropolitan Drainage Board, is expected to return to New Zealand in November with information in connection with changes for dealing with trade wastes. A more widely publicized aspect of the treatment works is its midge problem. Control methods will be studied in the United States by Dr D. Spiller of the D.S.I.R., who left Auckland in October.

The local branch is privileged to have as one of its members the newly elected President, Mr S. G. Brooker, a loyal supporter of the Institute for many years.

At the first branch meeting in September, Professor B. J. Ralph, Professor of Biochemistry and Dean of the Faculty of Science at the University of N.S.W., and Vice-President of the N.S.W. Branch of the Royal Australian Chemical Institute, addressed members on "Continuous Biochemical Processes in Industry".

The chairman of the American Chemical Society Council Committee on Chemical Education, and Professor of Chemistry at Washington State University, Dr Gardner W. Stacy, spoke at a second branch meeting in September on his interest in the search for anti-radiation agents that provide protection against atomic radiation without being significantly toxic.

Dr G. A. Nicholls, N.Z. Forest Products Ltd., returned in September from a brief flying visit to Singapore and Hong Kong to assess the performance in the field of newly introduced grades of paper that were used in the fibreboard containers for a trial shipment of apples forwarded by the N.Z. Apple and Pear Marketing Board.

In October, the Distribution Committee for the Promotion of Medical Research announced that grants from funds derived from Golden Kivi lottery profits were being awarded over three years to a number of recipients including the Auckland scientists, Dr R. N. Seelye, Dr P. L. Bergquist and Professor R. E. F. Matthews. Dr Seelye has been granted £8,595 for research on the chemistry of naturally occurring tumour inhibitors, Dr Bergquist has a £10,165 grant for research into aspects of nucleic acid and protein synthesis in connection with neoplastic growth, and Professor Matthews has a £30,450 grant for research on aspects of nucleic acid and proteins as related to viruses and cancer.

Professor P. V. Danckwerts, Professor of Chemical Engineering at Cambridge University, told members at a meeting in October that an oil refinery in New Zealand must inevitably lead to the production of petrochemical-based materials such as plastics and detergents.

## OTAGO BRANCH

The Otago branch, following the lead from Canterbury Branch, has sponsored a series of lectures to secondary school pupils on topics of chemical interest. The first three lectures this year were given by Professor H. N. Parton, Dr M. H. Panckhurst and Dr G. N. Malcolm, and all attracted large audiences. Two of the lectures are to be repeated in Invercargill. It is hoped that these lectures will become a regular feature of the activities of the Branch.

Dr G. N. Malcolm of the Department of Chemistry, Otago University, has been awarded a Nuffield Fellowship and will leave at the end of this year to spend a year with Dr Manfred Gordon at University College, London, studying polymer chemistry.

Dr F. G. Soper has returned from the Vice-Chancellors' Conference held in London.

Professor F. N. Fastier, Dr G. Blackman, Dr A. D. Campbell, Dr R. E. Corbett and Dr A. G. Williamson will be attending the A.N.Z.A.A.S. conference to be held in Canberra, January 20 to 24, 1964.

Dr M. H. Panckhurst and Mr J. McChesney attended the discussion course on Teaching of Chemistry in 6th Form at Frank Lopdell House, Auckland. Mr McChesney also attended an earlier discussion on chemistry teaching in 1st to 4th forms.

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 COUNCIL MINUTES

 ABRIDGED MINUTES OF A MEETING OF THE  
 COUNCIL, AUGUST 19, 1963.
*Present*

All officers and delegates.

*Honorary Fellows*

The following were elected Honorary Fellows of the Institute: Dr R. Gardner, Messrs T. A. Glendinning, K. M. Griffin, G. A. Lawrence.

*Journal*

The Editor reported that the financial position had improved somewhat, probably because of the increased charges for advertising. After discussion on the possibility of an article on safety in laboratories, it was decided to ask the Canterbury Branch to make, in consultation with Mr A. H. Horn, a preliminary investigation into this question.

*Addressograph Plates*

*Resolved* That a charge of £10 be made for the use of the addressograph plates. (It is understood that this charge of £10 is payable to the Institute for the use of the plates and any additional costs for materials, labour, etc., must be met by the user of the plates.)

*A.N.Z.I.C. by Examination*

It was agreed to refer to branches the syllabuses drawn up by the Examinations Committee together with the report, when available, of the meeting the Chemical Society representatives held in London on July 18.

Mr C. M. Payne, Dominion Laboratory, Petone, sought approval of Dominion Laboratory as suitable to obtain experience leading to the Associateship. *Resolved* That Dominion Laboratory be approved as requested.

*Laboratory Assistants Certificate*

*Resolved* That the Institute decline enrolment for additional subjects of persons holding the L.A.C.

It was pointed out that, although new candidates for the L.A.C. are no longer accepted, some candidates already enrolled have a record of repeated failures. It was agreed that this matter may need discussion in the near future if L.A.C. examinations are to cease in the next year or so.

*Public Statements*

There was considerable discussion on the matter of issuing public statements. It was generally agreed that it would in many cases be impractical and possibly undesirable for the Council to issue statements as such statements often need to be prepared at short notice to be of value, and, furthermore, Council has in general no means of assessing the opinion of members. If the Council issued a statement, it would do so in its own name rather than expressing an opinion claimed to be representative of the Institute membership.

It was pointed out that there is nothing to prevent branches issuing statements, but it was felt that, unless the matter dealt with was one dealing solely with chemical fact, it was desirable that the statement should be attributed to a Branch meeting, Branch Committee, etc.

*National Research Council Bill*

The President reported briefly on a meeting which the Minister of Scientific and Industrial Research had called to discuss with representatives of scientific bodies the proposed National Research Council Bill. (*The Council resolution following this discussion was reported in the Editorial of the October issue of the Journal.*)

*Financial*

*Resolved* That the sum of £44, being debenture interest in respect of Trust Fund Investments at present held in the General Funds, be credited to the General Fund.

*Resolved* That future debenture interest on Trust Fund Investments be credited to the General Funds.

(The trustees of the Trust Funds had been consulted and had agreed on this course of action.)

*Election of Officers*

The Secretary reported that no elections had been necessary and officers for the coming year would be:

President .....	Mr S. G. Brooker
Vice-President .....	Professor S. R. Siemon
General Secretary .....	Dr W. E. Harvey

*Overseas Visitors*

The Secretary reported on arrangements made for the forthcoming visits of Professors Alexander and Danckwerts. It was agreed, in general discussion, that it appeared that it might be desirable to have a central organization to provide information about visitors to N.Z. and it was suggested that the Secretary write to the heads of chemistry departments and directors of Government laboratories pointing out the advantages of such an organization.

W. E. HARVEY, *General Secretary*

## ANNUAL MEETING

ABRIDGED MINUTES OF THE ANNUAL  
GENERAL MEETING OF MEMBERS OF THE  
NEW ZEALAND INSTITUTE OF CHEMISTRY  
(INC.), AUGUST 22, 1963.*Present*

Mr W. G. Hughson (President, in the Chair) and approximately 80 members.

*Presidential Remarks*

The President commented briefly on activities during the year, mentioning especially Council's deliberations on the National Research Advisory Council Bill. He congratulated the members of the Conference Committee on their organization of the Conference, and mentioned that he had, during his term of office, visited all the branches.

*Annual Report and Balance Sheet*

The Thirty-third Annual Report for the year ended July 31, 1963, and the balance sheet and statement of accounts for the year ending April 30, 1963, were received and adopted.

*Changes in Rules*

The President briefly commented on the changes in the Rules which had been made during the year and informed members that the Rules will be reprinted and distributed to members.

*Relationship with Royal Society of New Zealand*

The President welcomed to the meeting the President of the R.S.N.Z., Dr C. A. Fleming, who had been invited to address the meeting.

Dr Fleming in his remarks explained the nature of the organizational structure of the R.S.N.Z. and in particular outlined the advantages to the N.Z.I.C. of affiliation to the R.S.N.Z. Professors S. N. Slater, L. H. Briggs, H. N. Parton and J. F. Duncan, Drs R. M. Allison, F. B. Shorland and J. K. Dixon, and Messrs N. T. Clare, S. G. Brooker and G. Wallace all spoke in the course of a general discussion.

*Resolved* (Clare/Shorland) That this meeting recommend that Council appoint a subcommittee to discuss with a similar subcommittee from the R.S.N.Z. the forms of association which are possible between the two parent bodies, and the terms under which affiliation or co-operation can be brought about.

*Institute Policy on Public Statements*

Miss Mattingley introduced discussion on the general policy which the Institute might have with respect to public statements. The President outlined Council's view.

In general, speakers endorsed the Council's attitude although there were some who felt this to be too negative. Professor Slater considered that the best course of action to follow in the case of subjects of wide interest is to ensure that, where appropriate, the Institute is represented on bodies which make decisions.

The N.Z. Campaign for Nuclear Disarmament had asked the Institute to support its campaign for a nuclear-weapons-free southern hemisphere. It was agreed that this matter could more appropriately be considered by branches.

*Term of Office of President*

Dr Shorland expressed the view that it would be desirable for the President to hold office for two years. The General Secretary pointed out that there was nothing in the Rules to prevent this, although this had not happened in the past. *Resolved* (Brooker/Dixon) That this matter be referred to the Council for consideration.

W. E. HARVEY, *Hon. General Secretary*

## THE REGISTRY

### Fellows

*(Elected July 3, 1963)*

DOLBY, Richard Malcolm, M.Sc., Ph.D.(Lond.), Dairy Research Institute, Palmerston North (Senior Chemist).

*(Elected August 19, 1963)*

KEYS, Oswald Hilton, M.Sc., Dominion Laboratory, Auckland (Officer in Charge).

ODELL, Allan Lloyd, M.Sc., Ph.D.(Lond.), Chemistry Dept., Auckland University (Assoc. Professor).

THOMSON, Alexander Lewis, M.Sc., Ph.D., Polymers (Pty.), Ltd., Otahuhu (Factory Manager).

### Associates

*(Elected July 3, 1963)*

ALCHIN, John David, M.Sc., R. & W. Hellaby Ltd., Auckland (Industrial Chemist).

BREWERTON, Hugh Victor, M.Sc., Dominion Laboratory, Lower Hutt (Principal Scientific Officer).

HAY, Robert Walker, B.Sc., Ph.D.(Glasgow), Chemistry Dept., Victoria University (Lecturer).

McNAUGHT, Robert Leslie, B.Sc., Reckitt & Colman (N.Z.) Ltd., Dunedin (Works Chemist).

*(Elected August 19, 1963)*

AGGETT, Frederick John, M.Sc., Ph.D., Chemistry Dept., Auckland University (Lecturer).

AIYAR, Krishna Ramchandran, B.Sc.(Nagpur), B.Agr.Sc.(Dairy Tech.), 16 Dhorampet Extension, Nagpur, India.

BODY, Denis Roger, M.Sc., Fats Research Laboratory, Wellington (Scientific Officer).

BROAD, Mrs Patricia Wyndam, M.Sc., Marsden College, Wellington (Teacher).

CORNISH, John Edwin, B.Sc., A.R.A.C.I., I.C.I.(N.Z.) Ltd., Wellington (Technical Manager).

DA ROZA, Robert Anthony, A.B., M.S.(Calif.), Institute of Nuclear Science, Lower Hutt (Principal Scientific Officer).

ELLIOTT, Malcolm John, M.Sc., B.A.L.M. Paints (N.Z.) Ltd., Auckland (Head Chemist).

ISHERWOOD, Peier Henry, M.Sc., Lactose Co. of N.Z. Ltd., Kaponga (Chemist).

K. NAIR, Parendran, M.Sc., Chemistry Dept., Auckland University (Ph.D. Student).

McCOACH, Hugh Joseph, M.Sc., B.D.S., 100 Broadway Ave., Palmerston North (Dental Surgeon).

NORDMARK, Birger Arnold, Dip.Chem.Eng.(Stockholm), N.Z. Co-op. Dairy Co. Ltd., Hamilton (Chemist).

MAKIN, John Leonard, B.Sc., CIBA Co. Ltd., Auckland (Manager).

ROY, Ronald Urwin, B.Sc., Dept. of Education, Christchurch (Post Primary Inspector).

SPEEDING, David John, M.Sc., Chemistry Dept., Victoria University (Ph.D. Student).

- TSE, Sydney Arthur, M.Sc., Fats Research Laboratory, Wellington (Scientific Officer).  
WATSON, Ian Douglas, M.Sc., Chemistry Dept., University of Otago (Asst. Lecturer).  
WILLIAMS, Xandra Kathleen, B.Sc.(Hons.) Lond., Chemistry Dept., Otago University (Scientific Officer, N.Z. Geological Survey).  
WILLS, Barthrop David, A.R.I.C., Ivon Watkins Ltd., New Plymouth (Analyst).  
WYLLIE, Stuart Grant, M.Sc., Chemistry Dept., University of Otago (Ph.D. Student).
- 

## IMPACT OF N.Z.I.C. ON SCIENCE IN NEW ZEALAND

*To the Editor,*

In the October, 1963, *Journal*, Dr Shorland writes on this subject. I am one of those who owe an apology for not attending to hear the Presidential Address to the Royal Society, especially as my membership extends back to about 1925, when I first joined the branch known as the Otago Institute.

Almost always, on receipt of the monthly card from the Wellington Branch of the Royal Society, I have read interesting titles of meetings which I would like to attend. A journey of 20 miles each way has become an increasing handicap associated with the stresses of advancing years. Likewise the monthly chemistry meetings have tempted more often than circumstances have permitted me to attend and bring along one or two colleagues.

Some 25 years ago, I was asked to give a talk one evening in Wellington. I do not remember whether the meeting was sponsored by the Wellington Branch of N.Z.I.C. or by an Economic Biology Section of the Wellington Branch of the Royal Society of New Zealand, but members from both groups attended. Nor do I remember precisely my subject — something connected with the dairy industry. In my introductory remarks, I said I had conspired to bring members from both groups together, because I feared there was incipient a tendency for the chemists to drift away from the Royal Society and its broader activities. When the time for discussion came, I was chided by the late Prof. W. P. Evans and by the late Mr R. L. Andrew, chemists who were stalwart supporters of both groups. They assured me that no such cleavage, as I had foretold, was expected or intended.

However, Dr Shorland warns us that it has now happened! I am sure there is no feud or anything like that. The warning is one which should be taken to heart. Efforts to recruit young chemists as members of the Royal Society may help to check the drift.

G. M. MOIR,  
Upper Hutt.

[We are happy to inform Dr Moir, and other members, that as a result of a resolution of the Annual General Meeting in August a subcommittee of the Institute has conferred with a similar group from the Royal Society to work out a procedure for increased co-operation. Any proposals arising from these discussions must, of course, be submitted to Branches, or to a vote by members, for approval. *Editor*]

## IN VINO VERITAS

During one of the evening sessions at the Institute Conference at Palmerston in August, approximately 180 persons participated in a practical class in organoleptic analysis. This took the form of a mass observation experiment on the effects, on the taste-buds of chemists and their consorts, of various products of the fermentation of the juice of the fruit of *Vitis vinifera*. The names of the reagents, liberally supplied by A. A. Corban and Sons, Mt Lebanon Vineyards, which were sniffed, sipped and savoured in these tests, are given below together with the manufacturer's notes on their preparation and properties.

*Riesling, 1963*: Light, delicate, pale, dry, white. Made from the first pressings of Riesling grapes grown on selected areas. Pressed in a Willmes press straight after crushing, following the German style of immediate separation of skin and juice. This wine, which is the result of low pressure and low temperature fermentation, retains the full characteristics of the grape and shows the sought-after petellance usually associated with the wines of Moselle.

*Dry White, 1963*: More robust than the Riesling and generally showing a nice acid finish. The grapes from which this wine are made are usually the last picked each vintage, have the ability to withstand climatic variation and produce high sugar values. The style of making follows French influence, skins and juice being left in contact for some hours before separating. The fermentation is at low temperature and pressure.

*Cubernet, 1961*: Made from a shy bearing European grape so that the yield fluctuates each year and the wine may be full bodied and robust one year and light bodied the next. Aging in oak casks of 800 gallon capacity has given this wine softness, lightness and good palatability.

*Montel*: Developed to suit the New Zealand palate. Balances acidity with sweetness.

*Palomino Flor*: The juice of the Palomino grapes is pressed from the skins immediately on crushing and after initial cultivated fermentation the wine is seeded down in hogsheads with a Flor yeast. This yeast develops a thick, moist, crenulated film on the surface and during its metabolism effects subtle changes in the wine. After two years the wine is removed from the casks, fortified, refrigerated, filtered and put into a solera for maturation. This wine is a solera wine, oldest component a Palomino vintaged in 1958.

*Cellarmans Special Port*: Aged in small barrels, this rich full-bodied wine is 10 to 12 years when bottled. Selected for the State Dinner tendered to Her Majesty in Christchurch this year.

*Sparkling Wines*: Produced by a bulk fermentation process from high quality matured table wines. The process relies upon secondary fermentation in bulk, refrigeration of the tank contents to a temperature just above the freezing point of the wine, clarifying under counter pressure by centrifuge and bottling under counter pressure under sterile conditions. The lowering of the temperature increases the solubility of the natural CO<sub>2</sub> in the wine. The natural head pressure, which is thus reduced by half, becomes apparent again when the wine warms up in the bottles. *Premier Cuvee* was selected for the State Dinner.

During the experiment caseous material in the form of cheeses kindly provided by the New Zealand Rennet Co. was used to adjust the taste-buds between trial runs and to regulate the absorption of  $C_2H_5OH$ .

A complete correlation of the results of this research has not been attempted and it is possible that records became slightly confused during the evening. However, no statistical examination was necessary to arrive at the conclusion that the experiment was outstandingly successful.

### BOOK REVIEW

*ADVANCES IN HETEROCYCLIC CHEMISTRY*, Vol. I, edited by A. R. Katritzky. Academic Press Inc., New York, 1963. Price \$15.00.

This book is the first of a new series, which adheres to the established format of the other "Advances" series from these publishers. The seven sections in this volume vary widely in their general interest. The first of these, "Recent Advances in the Chemistry of Thiophenes", is a comprehensive review, covering both the spectral (N.M.R., microwave, I.R. and U.V.) properties and chemical reactions of this class of compound. This well written and documented chapter should prove invaluable both to the student and to the experienced worker in this field.

The following three sections, "Reactions of Acetylenecarboxylic Acids and their Esters with Nitrogen-containing Heterocyclic Compounds", "Heterocyclic Pseudo Bases", "Aza Analogs of Pyrimidine and Purine bases of Nucleic Acids" are the specialist topics one expects in a book of this type, while the fifth, "Quinazolines", is of a more general nature.

The final two sections deal with prototropic tautomerism. These are well written and, though complete in themselves, they left the reviewer waiting for Vol. II of this series to answer some of the questions they raise. This is my only criticism of this book; I feel it would have been an improvement if all the sections on prototropic tautomerism had been in one volume, rather than spread over Vols. I and II.

—R.H.

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### INSTITUTE PRIZE AWARDS

The three New Zealand Institute of Chemistry Prizes for 1963 were awarded as follows:

*I.C.I. Prize*: Dr R. W. Bailey, Plant Chemistry Laboratory, Palmerston North.

*Morcom Green and Edwards Prize*: Dr E. Wong, Plant Chemistry Laboratory, Palmerston North.

*Chemical Essay Prize*: Mr T. I. Quickenden, Chemistry Department, University of Canterbury.

The *Easterfield Medal* of the Royal Institute of Chemistry was awarded by the New Zealand Section of the R.I.C. to Dr A. T. Wilson, of the Chemistry Department, Victoria University of Wellington. Dr Wilson delivered the Easterfield Address at the Institute Conference in August.

## INSTITUTE PRIZES

The closing date for entries for the three prizes awarded annually by the Institute is April 15. The Regulation governing the award of the three prizes was published in full in the *Journal* for April, 1959, and will be reprinted with the revised Rules in the near future. The following descriptions indicate the main requirements. Any member wishing to make an entry should particularly note three changes since the Regulation was last published in full.

- (a) The change of the closing date to April 15.
- (b) The reduction of the prescribed length for the Essay Prize to 5,000 words.
- (c) The increase in the value of the I.C.I. Prize to £50.

**THE CHEMICAL ESSAY PRIZE:** Offered for an essay or review paper, of not more than 5,000 words, on any aspect of chemical science. The prize is open to all members and local members. The value of the prize in recent years has been £25.

**THE I.C.I. PRIZE:** This prize of fifty pounds and a medallion has been donated by Imperial Chemical Industries (N.Z.) Ltd. It is awarded for "some major contribution to some branch of chemical science, this contribution to be judged by research work published or accepted for publication during the five years immediately preceding April 15 in the year of the award". Members may apply for the award or they may be nominated by Branch Committees or by individual members.

**THE MORCOM GREEN, EDWARDS PRIZE:** The Prize is of the value of £25 and is donated by Messrs H. H. Edwards and Morcom Green. It is offered "for the encouragement of original work by young chemists in pure and applied chemistry, with emphasis on applied chemistry". Applicants must be below the age of 35 years on June 1 in the year of the award. The candidate is assessed on published work or on a process he has designed or developed, or the product he produces.

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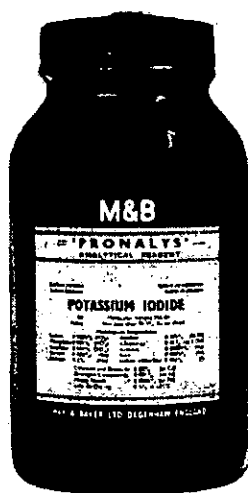
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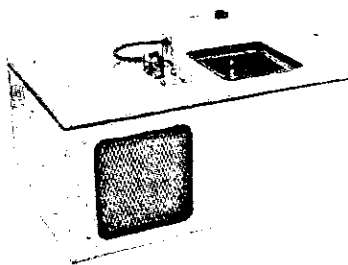
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1. Sully, B. D., *Analyst*, 1962, **87**, 940-3.

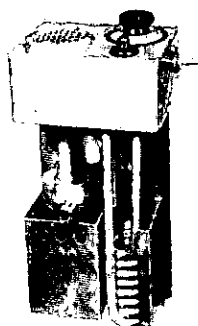


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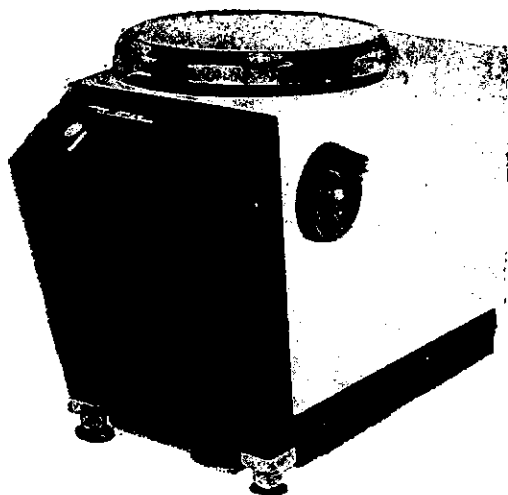
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