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THE CHEMICAL SOCIETY

NOTICE OF FORTHCOMING SCIENTIFIC MEETINGS

LONDON.

Thursday, April 4th, 1946, at 2.30 p.m.

Discussion, **Some Aspects of the Chemistry of Macromolecules**, arranged by Professor H. W. Melville, Ph.D., D.Sc., F.R.S., to be held at the Institution of Mechanical Engineers, Storey's Gate, St. James's Park, London, S.W. 1.

The following contributions will be made :

- "Low-temperature polymerisation processes." By Professor M. Polanyi, Ph.D., M.D., F.R.S.
- "Aqueous phase polymerisation of vinyl compounds." By Professor M. G. Evans, D.Sc.
- "Kinetics of polymerisation of vinyl compounds in the gas and liquid phases." By Professor H. W. Melville, Ph.D., D.Sc., F.R.S.
- "Equilibrium properties of high polymer solutions and gels." By Dr. Geoffrey Gee, M.Sc., Ph.D., A.R.I.C.
- "The study of macro-molecules by infra-red spectroscopy." By Dr. H. W. Thompson, M.A., B.Sc., D.Phil.
- "The study of high polymer structure by X-ray diffraction methods." By Mr. C. W. Bunn, M.A., B.Sc.

(A limited number of pre-prints of the above contributions are available and can be obtained by Fellows from the General Secretary.)

BIRMINGHAM.

Thursday, April 25th, 1946.

The Hundred and Fifth Annual General Meeting of the Chemical Society will be held at the University of Birmingham on April 25th, 1946. At 12 noon the business portion will be held, followed by a reception and luncheon at the University at 1 p.m. At 3 p.m. the presentation to Mr. S. E. Carr will be made, followed by the Presidential Address and installation of the new President. Full particulars will be circulated to Fellows later.

EDINBURGH.

Friday, March 22nd, 1946, at 7.30 p.m.

Lecture, **Trace Elements in Agriculture**, by Dr. W. G. Ogg, M.A., Director of the Rothamsted Experimental Station.

Joint meeting with the local sections of the Royal Institute of Chemistry and the Society of Chemical Industry, to be held in the North British Station Hotel.

MANCHESTER.

Thursday, March 14th, 1946, at 5 p.m.

Meeting for the reading of the following papers :

- "The diffusion of dyes into an absorbing medium." By H. A. Standing and J. O. Warwicker.
- "The pyrolysis of organic compounds. Preparation of some conjugated diolefines." By H. Gudgeon, R. Hill, and E. Isaacs.
- "Aspergillic Acid. Total synthesis of a racemic 2'-hydroxy-3 : 6'-disubstituted pyrazine and its relationship to deoxyaspergillic acid." By G. T. Newbold and F. S. Spring.
- "Experiments on the Scholl reaction." By G. Baddeley and J. Kenner.

To be held in the Chemistry Lecture Theatre of the University.

Thursday, May 2nd, 1946, at 6 p.m.

Lecture, **Recent Developments in Polynucleotide Chemistry**, by Professor J. M. Gulland, D.Sc., F.R.S.

To be held in the Chemistry Lecture Theatre of the University.

NEWCASTLE AND DURHAM.

Friday, May 10th, 1946, at 5.30 p.m.

Bedson Club Lecture, **Whither Chemistry ?** by Sir Robert Pickard, D.Sc., Ph.D., F.R.S.

To be held in King's College, Newcastle-on-Tyne, and all Fellows are invited.

SHEFFIELD.

Friday, May 3rd, 1946, at 5.30 p.m.

Lecture, **Vitamin A**, by Professor R. A. Morton, D.Sc., F.R.I.C.

Joint meeting with the University Chemical Society, to be held in the Chemistry Lecture Theatre of the University.

SOUTHAMPTON.

Friday, May 3rd, 1946, at 5 p.m.

Lecture, **The Chemistry of Penicillin**, by Sir Ian Heilbron, D.S.O., D.Sc., LL.D., F.R.S.

Friday, May 17th, 1946, at 5 p.m.

Lecture, **Nucleoproteins**, by Professor J. M. Gulland, D.Sc., F.R.S.

Friday, May 24th, 1946, at 5 p.m.

Lecture, **Structural Inorganic Chemistry**, by Professor W. Wardlaw, D.Sc., F.R.I.C.

Joint meetings with the University College Chemical Society to be held in the Physics Lecture Theatre of University College.

PROCEEDINGS
OF THE
CHEMICAL SOCIETY.

**Minutes of a
SCIENTIFIC MEETING**

held at Burlington House, Piccadilly, W. 1, on Thursday, February 7th, 1946, at 5 p.m.

The President, PROFESSOR W. N. HAWORTH, D.Sc., F.R.S., was in the Chair.

MINUTES.

The minutes of the Scientific Meeting held on January 17th, 1946, were taken as read and signed.

FORMAL ADMISSION OF FELLOWS.

The following were admitted Fellows of the Chemical Society: J. A. R. MacLean, W. W. Cuthbertson, K. A. Wickham, F. Clark.

SCIENTIFIC COMMUNICATIONS.

The following papers were read and discussed:

- “Synthetic Antimalarials.” By F. H. S. Curd, F. L. Rose, and co-workers.
“Amorphous Carbon.” By J. Gibson, M. Holohan, and H. L. Riley.
-

OFFICIAL ANNOUNCEMENTS

DEATHS.

The Council regret to announce the deaths of the following Fellows:

	Elected.	Died.
Theodore Edward Archard (Boston, Lincs.)	1941	Reported missing, presumed killed.
Biraj Mohan Gupta (Lucknow)	1920	May 26th, 1945.
Kapilram Hardevram Vakil (Bombay)	1911	January, 1946.
Sydney Martineau (London)	1887	Jan. 15th, 1945.
Joseph William Patterson (Durham)	1896	Jan. 15th, 1946.
William Pollard (Devon)	1898	Jan. 20th, 1946.
Ernest George Radley (London)	1920	Dec. 7th, 1945.
Frederick Gwilym Treharne (Bournemouth)	1895	Jan. 17th, 1946.
Frederick Edward Twining (California, U.S.A.)	1942	Oct. 18th, 1945.
James Watt (Edinburgh)	1945	Jan. 3rd, 1946.

ACKNOWLEDGMENTS.

The thanks of the Council have been conveyed to Professor E. D. Hughes for a contribution to the Research Fund, and to Mr. H. A. Auden for presenting publications of the Society.

NOMINATIONS FOR VACANT PLACES ON THE COUNCIL.

The following is the list of nominations for the new Council:

President. (*One vacancy.*)

CYRIL N. HINSHELWOOD.

Honorary Secretaries. (*Two vacancies.*)

DONALD H. HEY.

JOHN L. SIMONSEN.

Vice-Presidents who have not filled the Office of President. (*Two vacancies.*)

FREDERICK CHALLENGER (Leeds).
 REGINALD P. LINSTED (Teddington).
 SAMUEL SUGDEN (London).

Ordinary Members of Council.**Constituency I. (South-East England.)** (*Four vacancies.*)

ALBERT E. ALEXANDER (Cambridge).	FRANK E. KING (Oxford).
JOHN F. J. DIPPY (London).	FREDERICK G. MANN (Cambridge).
JOHN G. A. GRIFFITHS (London).	CHARLES W. SHOPPEE (London).
STANLEY H. HARPER (Southampton).	

Constituency III. (North-West England, North Wales, and the Isle of Man.) (*Three vacancies.*)

DOUGLAS W. HILL (Manchester).	MICHAEL POLANYI (Manchester).
ALEXANDER MCGOOKIN (Liverpool).	

Constituency V. (Scotland.) (*One vacancy.*)

HARRY W. MELVILLE (Aberdeen).

APPEAL FOR COPIES OF THE SOCIETY'S PUBLICATIONS FOR LIBERATED EUROPEAN COUNTRIES.

The Society has been invited to make sets of its publications available for free distribution to important centres in allied countries. Owing to wartime restrictions, the Society is unable to provide sufficient copies of its publications issued during the war years 1940—1945. The Council has, therefore, decided to appeal to Fellows for further copies of the *Journal*, *Annual Reports*, and *Abstracts* for those years. Any Fellow who is willing to provide such publications for this purpose is invited to notify the General Secretary as soon as possible. No publications should be sent at this stage.

SCIENTIFIC MEETINGS AT BURLINGTON HOUSE.

Owing to the limited accommodation and large attendance at the Society's Scientific Meetings, the Council has decided that in future only Fellows and guests accompanying Fellows will be admitted to the Lecture Room, and whilst other visitors introduced by Fellows will be welcome, if accommodation permits, they will not be admitted to the Lecture Room until five minutes before the Lecture was due to begin.

ADVISORY SUB-COMMITTEE ON NOMENCLATURE.

An Advisory Sub-Committee, with representatives appointed by the Bureau of Abstracts, has been formed to advise on questions of chemical nomenclature.

BRITISH STANDARD SPECIFICATIONS.

The following drafts have been received for technical comment :

- CH(PVC) 3299. Ready mixed paints.
- (a) CH(PVC) 3047. Water paints and distempers.
- (b) CH(PVC) 3383. Knotting.

These have been placed in the Library and Fellows wishing to make technical comment are requested to do so before March 29th, 1946, to the British Standards Institution, 28, Victoria Street, Westminster, S.W. 1.

ELECTION OF NEW FELLOWS.

The following 77 candidates were elected Fellows of the Chemical Society on February 7th, 1946 :

Margaret Mary Adams.	Donald Bramley.	Geoffrey William Dakin.
Carl Rupert Addinall.	Arnold Leslie John Buckle.	Henry Conrad Dunn.
Abdul Ahad.	Douglas Norton Buttrey.	Constantin Edeleanu.
Norman Albon.	Albert Gordon Caldwell.	David George Malcolm Eve.
Sydney Hubert Bannister.	John Russell Carter.	Hugh McNair Farquhar.
Harold Randall Barnard.	John Evelyn Cave-Browne-Cave.	Maurice Ernest Foss.
Edward Arthur Bassett.	George William Cherry.	Stanley Arthur Frapwell.
Ethel Irene Beeching.	Victor Malcolm Clark.	Helen Frenkel.
Armin Blumenthal.	Raymond Cobb.	Jervis Moisson Fulmer.

Robert Howard Gammon.
Neville Allan Gibson.
Andre Givaudan.
Geoffrey Frederick Glover.
George Victor Hancock Grimmett.
John Gruschka.
Eric Joseph Gunn.
Frank Hall.
Shirley Phillimore Harrold.
Alfred Herzka.
Kenneth John Hill.
Alan Rowland Hine.
Henry Allen Hodge.
George Robert Jenkinson.
Geoffrey Kempson Jones.
Shirley Wickham Jones.
Denis Alfred Alexander Kidd.

Douglas Stanley Lewis.
Anthony Duncan Littlewood.
Allan Maccoll.
William Mallinson McIsaac.
Geoffrey Walsh Meadows.
Hemant Kumar Moyade.
John Munro.
Kenneth Cecil Murfitt.
Charles Christopher Oglethorpe.
Jean Margaret Palmer.
George Frederick Perry Parsóns.
Alfred Holgate Raine.
Bernard Raistrick.
Srinivasa Rajagopalan.
Walter Jacob Rosenfelder.
David John Michel Rowe.
Alexander Bilton Roy.

Olga Rutherford.
Aldo Santi.
Alan George Sharpe.
William Dring Southam.
Anthony Sparks.
Chester Merle Suter.
Eric Malcolm Thain.
Reginald William Thomas.
George Henry Tweddell.
Norbert Uri.
Harold Vagtborg.
Arthur Philip Wade.
Stephen Collier Wallwork.
Norman Frank Warren.
Gerald Hugh Watson.
Norman Edgar Williams.

MEETINGS OUTSIDE LONDON.

SOUTH WALES.

“The Separation of Isotopes and Thermal Diffusion,” by Professor James Kendall, D.Sc., F.R.S.

A meeting of the Chemical Society was held jointly with the University College of Swansea Chemical Society on January 28th, 1946, in the Chemistry Lecture Theatre, University College, Swansea, the Chair being taken by Professor J. E. Coates, the Local Representative. In his lecture, Professor Kendall dealt mainly with his own researches in this field. A technique was developed by which ions of different elements in aqueous solution having specific mobilities differing by as little as one per cent. could be completely separated, but no separation of isotopic ions of metals could be effected, indicating identity of mobility. After describing his original idea and early experiments for isotopic separation at an electrode in electrolysis and the first success by this method achieved by G. N. Lewis in the separation of deuterium, Professor Kendall discussed the method of thermal diffusion in gas mixtures and in solutions and showed some striking experiments to illustrate both.

After a discussion in which Messrs. H. R. Forman, G. E. Coates, E. Thornton, and Professor F. L. Jones took part, a vote of thanks to the lecturer was proposed by Dr. N. H. Hartshorne, seconded by Mr. M. H. Roberts and carried enthusiastically.

LIST OF APPLICATIONS FOR FELLOWSHIP

(*Fellows wishing to lodge objections to the election of these candidates should communicate with the Honorary Secretaries before March 31st, 1946. Such objections will be treated as confidential. The forms of application are displayed in the Library.*)

- ***Adams, David Hemsley**, B.Sc. (Lond.), A.R.I.C. British. 4, Carlyon Close, Wembley. Research Chemist. *Signed by* : W. Davey, J. A. Pickard, R. C. Chirnside.
- Allen, Russell James Laurence**, B.Sc. (W. Australia), M.Sc. (Melbourne), Ph.D. (Cantab.), A.R.I.C. British. Monkhouse and Glasscock, Ltd., Snowfields, S.E. 1. Chief Chemist. *Signed by* : John W. Corran, A. L. Bacharach, Mamie Olliver.
- ***Bailes, Peter**, B.Sc. (Lond.). British. Stepside, Church Avenue, Farnborough. Junior Scientific Officer employed by Ministry of Aircraft Production. *Signed by* : Brian A. Loveridge, J. A. Wrenn, R. J. W. Le Fèvre.
- ***Baillie, Thomas William Terence**, M.Sc. (Q.Ü.B.), A.R.I.C. British. Garryowen, 37, Stormont Park, Knock, Belfast. Assistant Lecturer in Chemistry, Queen's University, Belfast. *Signed by* : A. R. Ubbelohde, H. Graham, R. C. Pink.
- ***Boud, Alan Hugh**, B.Sc. (Lond.). British. c/o Mrs. Pullen, 74, Westbrook Road, Heston. Physical Chemist in New Products Division, The Pyrene Co., Ltd. *Signed by* : J. Masson Gulland, D. O. Jordan, W. J. Clifford.
- Bourquin, Jean-Pierre**, Dip.Chem.Eng. and D.Chem. (Zürich). Swiss. 157, Oberwilerstrasse, Basel. Research Chemist, c/o F. Hoffman-La Roche and Co., Basel. *Signed by* : P. Karrer, T. Reichstein, V. Prelog.
- Bradford, Eric Andrew**, A.R.I.C. British. 61, Knockhall Road, Greenhithe. Development Chemist in the Paper Industry. *Signed by* : S. R. H. Edge, R. Leslie Collett, H. J. T. Ellingham.
- Brasher, Dora Mary**, B.Sc. (Lond.), A.R.I.C. British. 66, Woodstock Road, Bedford Park, W. 4. Research Chemist. *Signed by* : F. Wormwell, W. H. J. Vernon, R. St. J. Preston.
- Brightwell, Stanley Thomas Patrick**, M.Sc. (Lond.), A.R.I.C., D.I.C. British. Dovecot, Kingston, Cambridge. Food Chemist, Messrs. Sainsbury, Stanford Street, S.E. 1. *Signed by* : Alex. Findlay, H. J. T. Ellingham, R. Leslie Collett.
- Brown, Arthur William**, B.Sc. (L'pool), A.R.I.C. British. 29, Park Avenue, Eccleston Park, Prescott. Assistant Analytical Chemist, Associated Portland Cement Manufacturer, Ltd. (Central Laboratories). *Signed by* : W. A. Snow, H. F. S. Rogans, J. Stewart Cook.

- Bull, Arthur William**, B.Sc. and B.Pharm. (Lond.), A.R.I.C., Ph.C., M.P.S. British. 21, Derby Road, Beeston. Development of Pharmaceutical and Medicinal Products. *Signed by* : A. D. Powell, W. F. Elvidge, John C. Roberts.
- Cathro, James**, A.R.I.C. British. 24, Clyde Street, Carlisle. Works Chemist, R. and W. Scott, Ltd., Preserve Manufacturers, Carlisle. *Signed by* : A. B. Crawford, Ezra Golombok, Henry G. A. Anderson.
- Chalmers, John Ritchie**. Passed final examination for B.Sc. (St. Andrews). British. 10, Duke Street, Hawick. Chemist, L. Light & Co., Ltd., Old Bowry Laboratories, Wrausbury. *Signed by* : John Dewar, J. C. Irvine, John Read.
- *Chapman, Cyril Norman**. National Certificate in Chemistry. British. 25, Belvoir Road, Bristol, 6. Medical Laboratory Technician, Department of Preventive Medicine, University of Bristol. *Signed by* : W. P. Thistlethwaite, J. Bridges, Arthur Marsden.
- Clark, George Alexander Sutton**, B.Sc.Hons. and A.R.T.C. (Glas.), A.R.I.C. British. Dalton Grange, Huddersfield. Works Chemist, I.C.I. Dyestuffs Division. *Signed by* : Robert Raw, E. J. Hemer, Thos. A. Simmons.
- Clark, Norman Owen**, M.Sc. and Ph.D. (Lond.), D.I.C., A.R.C.S. British. 35, Beauford Way, Ewell. Scientific Officer, Chemical Research Laboratory, D.S.I.R. *Signed by* : W. H. J. Vernon, N. E. Topp, G. E. Little.
- Collins, William Thomas**, M.Sc. (Wales), A.R.I.C. British. Ravensmead, Gillas Lane, Houghton-le-Spring, Co. Durham. Schoolmaster. *Signed by* : C. W. Gibby, G. H. Christie, J. E. Coates.
- Cooper, Albert Charles**, B.Sc.Hons. (Wales). British. 20, Home Drive, Alkington, Middleton. Chemist with I.C.I. Dyestuffs Division, Hexagon House, Blackley, Manchester, 9. *Signed by* : E. L. Johnson, W. McGillivray Morgan, George A. Rowe.
- *Courtney, Peter Bedford**. British. St. John's College, Oxford. Reading for Honours degree in Chemistry. *Signed by* : J. H. Wolfenden, S. G. P. Plant, D. H. Everett.
- *Cowperthwaite, James Joseph**, B.Sc. (Manc.). British. Higher Fall Farm, Clifton Road, Marton, Blackpool. Assistant Chemist, Development Department, Donald MacPherson & Co., Ltd., Cornbrook, Manchester, 15. *Signed by* : A. E. Gillam, T. H. Quibell, F. S. Spring.
- Danby, Clement John**, B.Sc., M.A., and D.Phil. (Oxon.). British. 98, Holywell, Oxford. University Research Worker. *Signed by* : Ronald P. Bell, C. N. Hinshelwood, E. J. Bowen.
- *Davoll, John**, B.A.Hons. (Cantab.). British. c/o Clare College, Cambridge. Research in organic chemistry. *Signed by* : Fredk. S. Dainton, B. C. Saunders, G. H. R. Watson.
- Dean, Harry Kenneth**, B.Sc. and Ph.D. (L'pool), F.R.I.C. British. Paint Research Station, Waldegrave Road, Teddington. Research Chemist. *Signed by* : T. P. Hilditch, A. J. Howard, D. R. Duncan.
- *Eckton, Robert Edwin**, B.A. (Cantab.). British. c/o British Glues and Chemicals, Ltd., Research Department, Drayton House, Gordon Street, Euston Road, W.C. 1. Chemist. *Signed by* : Royston Barry Drew, Roger Duncalfe, S. Leadley.
- Fahn-Bader, Rosa Anna**, D.Chem. (Vienna). Austrian (naturalisation applied for). 92, Earlsdon Avenue, Coventry. Research Chemist, Medical School, The University, Birmingham. *Signed by* : M. Stacey, S. R. Carter, J. C. Tatlow.
- Gay, Philip James**, B.Sc. (Lond.). British. Paint Research Station, Waldegrave Road, Teddington. Research Chemist. *Signed by* : D. A. Sutton, A. C. C. Newman, C. H. Young.
- Gilbert, Eric Douglas**, B.Sc. (Lond.), A.R.I.C. British. Lamorna, Wiltshorpe Road, Breaston, Derby. Assistant Chemist, L.M.S. Railway. *Signed by* : D. P. Earp, F. Fancutt, Eric S. Gyngell.
- Giles, John Kenneth**, M.Sc. (Lond.), A.R.I.C. British. Cascaes, Bridge of Weir. Chemist, Gray Dunn & Co., Ltd., Stanley Street, Glasgow. *Signed by* : J. W. Tait, F. D. Miles, Andrew McLean.
- Gluckauf, Eugene**, Dr.Ing. (Berlin), M.Sc. (Lond.), D.I.C. Formerly German. 3, Pimlico, Durham. Research Fellow of the Durham Colleges. *Signed by* : F. A. Paneth, G. H. Christie, C. W. Gibby.
- Hall, Frederick John**, A.R.I.C. British. H.3, Meece House Annexe, Coldmeece, Stone. Chemist. *Signed by* : W. F. Bennett, A. H. Coates, S. K. Tweedy.
- *Hawthorne, John Nigel**, B.Sc.Hons. (Birm.). British. Briarcliffe, Buffery Road, Dudley. Research in Chemical Pharmacology for Ph.D. at Medical School, Birmingham University. *Signed by* : L. L. Bircumshaw, W. N. Haworth, S. R. Carter.
- *Hopkins, Hubert Brian**, B.Sc.Hons. (Leeds). British. 8, Lime Avenue, Stockton Lane, York. Research Student. Department of Organic Chemistry, Leeds University. *Signed by* : W. A. Wightman, Frederick Challenger, J. W. Baker.
- Holman, John Cristiaan George Mervyn**, B.Sc. (Lond.), F.R.I.C., A.M.I.Chem.E. British. c/o Iodine Educational Bureau, 41, Albany Park Road, Kingston-on-Thames. Consulting Industrial Chemist. *Signed by* : William McCartney, H. J. T. Ellingham, F. A. Greene.
- Hutchison, Alexander Cantlay**, M.A., B.Sc. and Ph.D. (Aberd.), A.R.I.C. British. 36, Caledonia Road, Saltcoats. Research Chemist. *Signed by* : Andrew McLean, F. Woolgar Jarvis, W. E. Tetlow.
- Jamsett, Ronald Alfred**, B.Sc. (Lond.), A.R.I.C. British. 53, Greenbank Road, Devonshire Park, Birkenhead. Research Chemist. *Signed by* : Percy N. Williams, B. D. W. Luff, L. V. Cocks.
- Lewis, Ewart Gordon**, M.A. (Cantab.). British. Orchard House, Orchard Road, Sidcup. Research Chemist. *Signed by* : Peter A. Savage, A. Butler, W. G. Williams.
- Johnson, Horace Ernest**, M.P.S. British. 1, Linchmere Avenue, Saltdean, Brighton. Manager at Arthur H. Cox & Co., Ltd., 93, Lewes Road, Brighton. *Signed by* : H. C. Happold, C. Kemplay, H. Lucas.
- Johnson, Sydney Walgate**, B.Sc. (Dunelm), Ph.D. (Lond.), A.R.I.C. British. 2, Jerningham Road, New Cross, S.E. 14. Consulting Chemist, partner in the firm of Barent & Johnson, Buchanan Buildings, Holborn, E.C. 1. *Signed by* : M. Barent, H. V. A. Briscoe, R. Leslie Collett.
- Lovell, Barbara Jean**, M.Sc. and Ph.D. (Manc.). British. 21, Heathclose Road, Dartford. Research Pharmacist. *Signed by* : E. Walton, H. T. Openshaw, R. Hull.
- *Lynskey, Peter John**, B.Sc.Hons. (L'pool), A.R.I.C. British. 1, Wembley Road, Mossley Hill, Liverpool, 18. Chemist with John F. Carmichael & Co., Ltd., Chemical Engineers, Tower Building, Liverpool, 3. *Signed by* : John F. Carmichael, W. C. M. Lewis, T. P. Hilditch, Francis W. Kay.
- MacDonald, Kenneth**, A.R.I.C., Ph.C., M.P.S. British. 284, Great Western Road, Glasgow, C. 4. Chemist at the Bellshill & District Ice-making Co., Ltd., Hattonrigg Road, Bellshill. *Signed by* : F. Rumford, Henry G. A. Anderson, A. B. Crawford.

- McInnes, Keith Grahame**, Inter. B.Sc. (Lond.). British. 1, Woodpath, Elm Grove, Southsea. Analytical and Experimental Assistant Chemist (Admiralty). Studying for External B.Sc. Special (Honours), London University. *Signed by* : L. Crombie, David Wyllie, C. G. Lyons.
- McIntyre, Robert**, B.Sc. (N.U.I.), A.R.C.Sc.(I.), F.R.I.C. British. C.I.N.O. Department, Block C., Admiralty, Landsdown, Bath. Principal Chemist, S.R.E. Department, Admiralty. *Signed by* : F. E. Wilson, H. Norman Read, H. J. T. Ellingham.
- Malcolm, Thomas**. British. 81, Stock Street, Paisley. Analytical Chemist with Messrs. Bilsland Bros., Ltd., 75, Hydepark Street, Glasgow, C. 3. *Signed by* : Alex. Findlay, H. J. T. Ellingham, R. Leslie Collett.
- Milton, Reginald**, B.Sc. (Lond.), F.R.I.C. British. 8, Brackley Road, Beckenham. Consulting Chemist. *Signed by* : W. A. Waters, A. G. Ogston, C. Hewett.
- *Moore, Patrick Thomas**, B.Sc.Hons. and M.Sc. (N.U.I.). Irish. Department of Biophysics, Lister Institute, Chelsea Bridge Road, S.W. 1. Research Chemist, Holder of a Fellowship of the Medical Research Council of Ireland. *Signed by* : T. S. Wheeler, V. C. Barry, Thomas G. Brady.
- *Moss, Vincent**, B.Sc.Hons. (Lond.). British. 31, Bairstow Street, Preston, Lancs. Process Chemist, Messrs. Courtaulds, Ltd., Preston. *Signed by* : A. Cooksey, E. Foley, Malcolm Crawford.
- Mounfield, James Denis**, M.Sc.Tech. and Ph.D. (Manc.), A.R.I.C. British. Greylands, Ollerbarrow Road, Hale. Research Chemist. *Signed by* : Hugh C. Freeman, R. H. Callow, W. P. Ford.
- Mukherjee, Shyamapada**, B.Sc.Hons. and M.Sc. (Patna), A.I.I.Sc., A.R.I.C. Indian. University Chemical Laboratory, Pembroke Street, Cambridge. Carrying out research work for the Ph.D. degree, University of Cambridge. *Signed by* : Alex. R. Todd, B. C. Saunders, B. Lythgoe.
- Musgrave, William Kenneth Rodgeron**, B.Sc.Hons. and Ph.D. (Birm.), A.R.I.C. British. University of Durham, Chemistry Department, South Road, Durham. University Lecturer. *Signed by* : G. H. Christie, F. A. Paneth, C. W. Gibby.
- *Powlesland, Norman John**. Subs. B.Sc. (in Physics). British. 57, Orchard Gate, Sudbury, Greenford. Junior Chemist at the British Drug Houses, Ltd. *Signed by* : B. P. Baker, T. H. Mead, J. A. R. MacLean.
- *Prentice, William Ross**, B.Sc.Hons. (Glas.). British. 123, Thomson Street, Glasgow, E. 1. Petroleum Chemist. *Signed by* : J. W. Cook, James D. Loudon, S. Horwood Tucker.
- Rice, Geoffrey Felix**. British. 5, St. Michael's Grove, Fareham. Analytical Chemist employed by the Admiralty. Chemical Pool. *Signed by* : L. Crombie, A. J. M. Draper, Stewart A. Hood.
- Richmond, Donald Vivian**, B.Sc. (Lond.). English. 38, Oxenpark Avenue, Wembley. Analytical Chemist. *Signed by* : J. M. Jones, George Taylor, J. Hubert Hamence.
- Taylor, James**, D.Sc. and D.Ph. (Dunelm), D.Sc. (Utrecht), F.R.I.C. British. 7, Winton Circus, Saltcoats. Associate Research Manager, Imperial Chemical Industries, Explosives Division. *Signed by* : F. D. Miles, J. W. Tait, J. Weir, Andrew McLean.
- Thomas, Christopher Henry**, B.A.Hons. (Cantab.). British. 86, Gladys Avenue, North End, Portsmouth. Analytical and Experimental Assistant, Admiralty Chemical Department, H.M. Dockyard, Portsmouth. *Signed by* : L. Crombie, David Wyllie, A. J. Mountford Draper.
- *Thornton, John Desmond**, B.Sc.Hons. (Leeds). British. The Mount, Horsforth, Leeds. Assistant Research Chemist with Anglo-Iranian Oil Co., Ltd., Research Station, Sunbury-on-Thames. *Signed by* : Frederick Challenger, F. R. Goss, E. Rothstein.
- *Thorpe, Eric Frederick James**, B.Sc.Hons. (Lond.), A.R.I.C. British. 40, Crowther Avenue, Brentford. Analytical Chemist, the British Drug Houses, Ltd., London, N. 1. *Signed by* : W. Davey, E. J. Chappel, R. W. Latter.
- Tomlinson, Reginald Harold**, A.R.I.C. British. Hill Cottage, Mucklow Hill, Halesowen, Birmingham. Research Assistant at Albright and Wilson, Ltd., Chemical Works, Oldbury. *Signed by* : Geo. King, D. R. Peck, J. Cooper Duff.
- Veale, Joseph Mary**, A.R.C.Sc.(I), F.R.I.C. Irish. Cluan Muire, Greenfield Road, Mount Merrion Park, Blackrock, Co. Dublin. Chemist, Class I. State Laboratory, Upper Merrion Street, Dublin. *Signed by* : T. S. Wheeler, A. G. G. Leonard, Vincent C. Barry.
- *Walter, Stanley Thomas**, B.Sc.Hons. (Bristol). British. 91, Woodland Road, Bristol, 8. Research Student, Department of Chemistry, University of Bristol. *Signed by* : C. E. H. Bawn, W. Baker, G. T. Young.
- Watson, John Adam Cunningham**, A.R.I.C. British. c/o London Oil Corporation, Ltd., 161, Camberwell Grove, S.E. 5. Analytical Chemist. *Signed by* : Eric C. Wood, R. L. Edwards, L. C. Dutton.
- Whalley, Margaret**, B.Sc.Hons. (Glas.). British. Holmdene, Fullarton Crescent, Troon. Research Student. *Signed by* : S. Horwood Tucker, J. W. Cook, David T. Gibson.
- *Wilson, Douglas Robert Wallace**, B.Sc. (Lond.). British. 19, Waltham Avenue, Oxbridge, Stockton-on-Tees. Research Chemist. *Signed by* : A. Eric J. Vickers, M. P. Applebey, C. R. Bury.
- *Winning, William Ian Hay**, B.Sc.Hons. (Edin.), Carnegie Research Scholar at Edinburgh University. Scottish. 3, Craighill Gardens, Morningside, Edinburgh, 10. Research Student at Edinburgh University. *Signed by* : E. G. V. Percival, J. A. V. Butler, Mowbray Ritchie.
- Wollenberg, Hans Georg**, D.Chem. (Padna). Stateless. 23, Belsize Avenue, N.W. 3. Organic Chemist, Ashe Laboratories, Victoria Street, S.W. 1. *Signed by* : Denis Ian Duveen, Wm. E. Gaunt, F. B. Marmoy.
- Wright, Stanley**, A.R.I.C. British. 79, Dacy Road, Liverpool, 5. Technical Soapmaking Chemist. At present, Lieutenant, Royal Engineers. *Signed by* : R. B. Butler, A. E. Findley, A. McGookin.
- Wordsworth, Charles Harcourt**, B.Sc. (Lond.), F.R.I.C. British. Chemical Laboratory, Town Hall, Rosebery Avenue, E.C. 1. Analytical and consulting chemist and public analyst. *Signed by* : Ernest M. Hawkins, Albert E. Parkes, C. Kear Colwell.

UNDER SPECIAL PROVISION APPEARING TO CANDIDATES RESIDENT ABROAD.

- Abraham, Henry George Walter**, B.A. (Punjab). British. Bishop Cotton School, Simla, India. Registrar, C.M.H. Belgaum (B.P.), India. *Signed by* : W. J. Toop.
- Hauptmann, Heinrich**, Dr.Phil. (Breslau). Naturalized Brazilian. Caixa postal 4127, Sao Paulo, Brasil. Professor at the University of Sao Paulo. Chair of Organic and Biological Chemistry at the Faculdade de Filosofia, Ciencias e Letras. *Signed by* : V. Deulofeu.

- Hill, Herbert Eric**, A.R.I.C. British. Government Analyst's Department, Campbell Street, Hobart, Tasmania. Government Analyst. *Signed by* : Bernhard J. Ralph, Geo. C. Israel.
- Lal, Bijan Bihari**, M.Sc. and Ph.D. (Lucknow). Indian. 12, Chander Road, Dehra Dun. Archæological Chemist in India, 17, Curzon Road, Dehra Dun. *Signed by* : Mohd Sana Ullah.
- May, Ernest Max**, M.A. (Princeton), Ph.D. (Chicago). American. 164, Blackburn Road, Summit, N.J., U.S.A. General Manager, Otto B. May, Inc., Chemical and Dyestuff Manufacturers. *Signed by* : H. A. Piggott.

* Reduced Annual Subscription.

PAPERS RECEIVED

List of papers received between January 4th and February 7th, 1946. (This list does not include the titles of papers which have been read at a Scientific Meeting or which have appeared in the *Journal*.)

- "Podocarpic acid. Synthesis of 1 : 12-dimethyl-6- and -7-methoxyoctahydrophenanthrene-1-carboxylic acids." By R. D. HAWORTH and B. P. MOORE.
- "Syntheses of 9-substituted flavines as antimalarials." By M. M. NEEMAN.
- "New syntheses of heterocyclic compounds. Part VI. Triazafluorenes and azaphenazines from 3 : 5-dinitrochloropyridine." By V. A. PETROW and J. SAPER.
- "An alternative route to stilboestrol." By A. E. WILDER SMITH.
- "The effect of steric hindrance on the course of Pfitzinger's reactions." By NG. PH. BUU-HOI.
- "Vapour pressure of phthalic anhydride." By D. A. CROOKS and (MISS) F. M. FEETHAM.
- "The preparation of 4-aminophenylsulphones. Part I. The reaction between aromatic sulphinic acids and quinones or quinone-imines." By S. PICKHOLZ.
- "Methylation of β -methyl glucopyranoside and $\alpha\beta$ -methyl xylopyranosides by thallos hydroxide and methyl iodide." By C. C. BARKER, E. L. HIRST, and J. K. N. JONES.
- "Attempts to find new chemotherapeutic amidines. Part III. Nuclear-substituted derivatives of 4 : 4'- and 3 : 3'-diamidinostilbene." By J. N. ASHLEY and J. O. HARRIS.
- "The preparation of *ortho*- and *para*-nitroacetophenone." By A. H. FORD-MOORE and H. N. RYDON.
- "Kinetics of the halogenation of acetone in alkaline solutions." By R. P. BELL and H. C. LONGUET-HIGGINS.
- "The methyl thioethers derived from mustard gas and its analogues. Part I. Possible uses for analysis." By E. M. MEADE and R. C. G. MOGGRIDGE.
- "The methyl thioethers derived from mustard gas and its analogues. Part II. Pyrolysis experiments." By R. J. CHARNOCK and R. C. G. MOGGRIDGE.
- "The methyl thioethers derived from mustard gas and its analogues. Part III. Synthetic experiments." By R. BROWN and R. C. G. MOGGRIDGE.
- "Contribution to the chemistry of pyridine. Condensation of β -hydroxypyridine with formaldehyde in alkaline medium." By T. URBANSKI.
- "An improved analysis of fuming and concentrated sulphuric acid by water titration." By J. C. D. BRAND.
- "Methylene chloroamine." By (MISS) M. LINDSAY and F. G. SOPER.
- "The structure of dimeric keten : Infra-red measurements." By D. H. WHIFFEN and H. W. THOMPSON.
- "4 : 4'-Dinitrodiphenylsulphone." By H. BURTON and W. A. DAVY.
- "The synthesis of 3-methylisoquinolines. Part II." By G. R. CLEMO and J. H. TURNBULL.
- "The ionisation of acridine bases." By A. ALBERT and R. GOLDACRE.
- "Synthetic antimalarials. Part VIII. Some 4-arylamino-6-basicallylamino-2-methylpyrimidines." By F. R. BASFORD, F. H. S. CURD, and F. L. ROSE.

THE CHEMICAL SOCIETY

NOTICE OF FORTHCOMING SCIENTIFIC MEETINGS

LONDON (*Burlington House*).

Thursday, May 16th, 1946, at 5 p.m.

Meeting for the reading of the following papers :

“Strychnine and brucine. Part XLII. Constitution of the *neo*-series of bases and their oxidation products.” By L. H. Briggs, H. T. Openshaw, and R. Robinson.*

“The reconversion of *D*-homo androstane compounds to derivatives of androstane.” By D. A. Prins and C. W. Shoppee.*

BIRMINGHAM.

Thursday, April 25th, 1946.

Hundred and Fifth Annual General Meeting of the Chemical Society.

To be held at the University of Birmingham.

12 noon. Business meeting.

1 p.m. Reception and Luncheon at the University of Birmingham.

3 p.m. Presentation to Mr. S. E. Carr.

Presidential Address.

Installation of New President.

Full particulars have been circulated to Fellows.

MANCHESTER.

Tuesday, May 7th, 1946, at 6 p.m.

Lecture, **Recent Developments in Polynucleotide Chemistry**, by Professor J. M. Gulland, D.Sc., F.R.S.

To be held in the Chemistry Lecture Theatre of the University.

NEWCASTLE AND DURHAM.

Friday, May 10th, 1946, at 5.30 p.m.

Bedson Club Lecture, **Whither Chemistry ?**, by Sir Robert Pickard, D.Sc., Ph.D., F.R.S.

To be held in King's College, Newcastle-on-Tyne, and all Fellows are invited.

ST. ANDREWS AND DUNDEE.

Monday, April 15th, 1946, at 5 p.m.

Lecture, **Rheology—the Study of the Deformation and Flow of Matter.**

To be held in the Chemistry Department, University College, Dundee.

SHEFFIELD.

Friday, May 3rd, 1946, at 5.30 p.m.

Lecture, **Vitamin A**, by Professor R. A. Morton, D.Sc., F.R.I.C.

Joint meeting with the University Chemical Society, to be held in the Chemistry Lecture Theatre of the University.

* To read paper.

SOUTHAMPTON.

Friday, May 3rd, 1946, at 5 p.m.

Lecture, **The Chemistry of Penicillin**, by Professor Sir Ian Heilbron, D.S.O., D.Sc., LL.D., F.R.S.

Friday, May 17th, 1946, at 5 p.m.

Lecture, **Nucleoproteins**, by Professor J. M. Gulland, D.Sc., F.R.S.

Friday, May 24th, 1946, at 5 p.m.

Lecture, **Structural Inorganic Chemistry**, by Professor W. Wardlaw, D.Sc., F.R.I.C.

Joint meetings with the University College Chemical Society to be held in the Physics Lecture Theatre of University College.

PROCEEDINGS

OF THE

CHEMICAL SOCIETY.

Minutes of a SCIENTIFIC MEETING

held in Department of Chemistry, University of Glasgow, on Friday, February 15th, 1946, at 5.30 p.m.

After an official welcome of the Society to the University of Glasgow by Sir Hector Hetherington, Principal and Vice-Chancellor of the University, the President, Professor W. N. Haworth, D.Sc., F.R.S., took the Chair.

FORMAL ADMISSION OF FELLOWS.

The following were formally admitted Fellows of the Society: S. C. Abrahams, H. G. A. Anderson, Miss Mary Andross, N. Barton, H. Burman, J. R. Campbell, T. Cottrell, J. Crawford, J. M. Ferguson, W. Graham, J. W. Hawley, R. Hicks, I. V. Hopper, J. W. Kerr, M. Littlejohn, A. McLean, J. McLean, D. C. Martin, E. M. Melville, F. D. Miles, S. Mitchell, J. Munro, N. Percy, D. M. Ross, J. Shorter, A. R. Somerville, D. M. Stead, Miss E. F. M. Stephenson, T. S. Stevens, F. R. Storrie, J. Sword, T. Templeton, W. G. D. Wright.

TILDEN LECTURE.

Dr. W. A. Waters delivered the Tilden Lecture entitled "Some Recent Developments in the Chemistry of Free Radicals."

Minutes of a SCIENTIFIC MEETING

held at Burlington House, Piccadilly, London, W. 1, on Thursday, March 7th, 1945, at 5 p.m.

The President, PROFESSOR W. N. HAWORTH, D.Sc., F.R.S., was in the Chair.

MINUTES.

The Minutes of the Scientific Meeting held on February 7th at Burlington House and on February 15th at the University of Glasgow were taken as read and signed.

FORMAL ADMISSION OF FELLOWS.

The following were admitted Fellows of the Chemical Society: P. W. Arnold, J. F. Osborne, A. Herzka, H. L. Peerman, G. Parsons, A. J. Parts, L. E. Abbott, G. M. Hills, M. E. Foss, L. M. Miall.

PEDLER LECTURE.

The PRESIDENT called on Professor A. R. Todd, D.Sc., F.R.S., to deliver his Pedler Lecture, entitled "Synthesis in the Study of Nucleotides."

At the conclusion of the lecture, a vote of thanks to the Lecturer, proposed by Sir Robert Robinson and seconded by Professor J. M. Gulland, was carried with acclamation.

OFFICIAL ANNOUNCEMENTS

DEATHS.

The Council regret to announce the deaths of the following Fellows:

	Elected.	Died.
Augustus Edward Dixon (Kent)	1885	Mar. 3rd, 1946.
Herbert Ingle (Stockport)	1889	Oct. 8th, 1945.
Charles Walter Martin (Birmingham)	1943	Feb. 13th, 1946.

CONGRATULATIONS.

The congratulations of the Council have been conveyed to the following Fellows who completed 60 years of Fellowship on March 4, 1946.

Arthur Percy Hoskins (Belfast).
Arthur Pillans Laurie (Hindhead).

William Thomas Wright (Sheffield).
Brougham Young (London).

and to the following who completed 50 years of Fellowship on February 20th, 1946 :

John Allen (Manchester).
William Henry Barker (London).
William Henry Bentley (Wirral).
Joseph Edwin Alger Blyde (Sheffield).

Thomas Ewan (Strathblane).
Ernest Haynes Jeffers (Chelmsford).
Thomas Francis Rutter (Braunton).
Charles Edward Sage (London)

The President sent a telegram of congratulation to Dr. Bernard Dyer, Senior Fellow of the Society, on the occasion of his 90th birthday on February 25th. Dr. Dyer completed 70 years of Fellowship on December 16th, 1945.

ACKNOWLEDGMENTS.

The thanks of the Council have been conveyed to Mr. H. Auden, Dr. A. F. Campbell, Mr. J. C. Jewell, Miss D. Patterson, and Wellcome Chemical Research Laboratories for gifts of publications of the Society.

TILDEN LECTURES 1946—1947.

Dr. A. E. Alexander and Dr. M. Stacey have accepted the invitation of the Council to deliver the Tilden Lectures during the session 1946—1947.

GERMAN BOOKS.

A list has been prepared of some books on pure and applied chemistry published in Germany and Austria during the years 1939—1944.

The list contains some 300 items, and a copy may be consulted in the Library.

LIBRARY.

The Library will be closed for the Easter Holidays from 1 p.m. on Thursday, April 18th, to 10 a.m. on Wednesday, April 24th.

ELECTION OF NEW FELLOWS.

The following 110 candidates were elected Fellows of the Society on March 7th, 1946 :

Keith William Allen.
Winston Kennay Anslow.
Martin Apley.
Arthur Thomas Austin.
George Albert Barber.
Walter Reginald Bett.
Norman Grainger Bisset.
Robert Monro Black.
John Rodriguez Blanco.
Cyril Josiah Bloomfield.
Reginald George Bowler.
Eugene Henry William James Burden.
Eric David Brabin.
Donald William Broad.
Annie Maude Brown.
Gordon Brown.
Eric Cocker.
George Alexander Collie.
Norman Hixon Collings.
Michael Oliver Coulter.
Gordon Cumming.
William Gerard Daroux.
Ralph Defries.
Terence Anthony Dick.
Carl Djerassi.

Henry Dorner.
James Gordon Napier Drewitt.
Jan van Driel.
Donald Matthew Duckworth.
David John Duff.
Felix Durocher-Yvon.
Guy Gordon Studdy Dutton.
George Elliott.
Richard Macleod Elofson.
James Robert Embleton.
Donald Entwistle.
William Alexander Falconer.
George Feachem.
Ernest Fried.
George Bruce Galliver.
Marjorie Ena Garrod.
Gerard Growney.
Heinz Gruenebaum.
Dorothy Harper.
Frank Charles Harper.
Gwynne Hughes Harries.
Jack Blatchley Harrison.
Elsie Nora Harvey.
Maurice Hayling.
Albert Arthur Henly.
Carroll Alonzo Hochwalt.

Gordon Leonard Holbrow.
Denis Herbert Suttle Horn.
Otto Isler-Stickelberger.
Shalom Israelashwili.
Robert Henry Jackson.
John Charles James.
Jean Jeannerat.
Aubrey Dennis Jenkins.
Einer Jensen.
Alan Jewsbury.
James Dennis Jones.
Kenneth William Jones.
Norman Ralph Jones.
Praneshwar Nath Kathju.
John Kilvington Kilham.
Bernard Leadbeater.
Bernard George Limmer.
Leonard William James Loveless.
Paul Low-Ber.
Herbert Samuel McCauley.
Denis McClure.
Edward Manners.
Frank Gerald Marsh.
William Kenneth Matthews.
Arthur Edward Meadowcroft.
Gregoire Minkoff.

Murdo Logan Moir.
 Ahmed Mustafa.
 Ronald Stephen Neal.
 Arne Olander.
 Frederick Georgeson Palmer.
 Cecil Allen Parker.
 Edward Arthur Perren.
 Hubert Thomas Porter.
 Ralph Robert Alexander Pride.
 Francis William Raw.
 Alexander Pershing Rice.

Charles Francis Matthew Rose.
 Philip Sainter.
 Martin Seidman.
 Philip Sherman.
 John Shorter.
 Eric Arthur Simmons.
 Sydney Gordon Smith.
 Babatunde Somade.
 Kenneth Ian Speed.
 Wilfrid Devonshire Spencer.
 Joan Dixon Sutton.
 Arcot Ranganatham Yathiraja.

Reginald David Taylor.
 Ernest Theodore Theimer.
 Wilfred Norman Townsend.
 Jacob Frederick Van Oss.
 Tatkamangalam Ananthanarayana
 Iyer Venkitasubramanian.
 Charles Walter Wellington.
 Allan Leonard Whynes.
 Bo. Stensson Westerberg.
 John Pierce Wilson.
 Herbert Leslie Wood.

MEETINGS OUTSIDE LONDON.

EDINBURGH.

“Some Problems in Polysaccharide Chemistry,” by Professor E. L. Hirst, M.A., D.Sc., F.R.S.

A joint meeting of the Society with the Local Section of the Royal Institute of Chemistry and the Society of Chemical Industry was held on February 22nd, at 7.30 p.m., in the North British Station Hotel, Edinburgh, Dr. E. G. V. Percival being in the Chair. In his highly stimulating address, Professor Hirst reviewed both old and new methods of attack. A lively discussion followed, in which Dr. Neil Campbell, Dr. M. A. Phillips, Dr. F. H. King, Mr. W. Forsyth, and Dr. R. C. Menzies participated and Dr. W. O. Kermack, F.R.S., proposed the vote of thanks which was carried with great enthusiasm.

“Trace Elements in Agriculture,” by Dr. W. G. Ogg, M.A., Director of the Rothamsted Experimental Station.

A joint meeting of the Chemical Society and the Local Sections of the Royal Institute of Chemistry and the Society of Chemical Industry was held on March 22nd, at 7.30 p.m., in the North British Station Hotel, with Dr. Percival in the Chair. Dr. Ogg gave a stimulating account of the present state of our knowledge of trace elements, boron, manganese, etc., and their effect on plant growth. A most valuable discussion followed in which Drs. James Stewart, A. M. Smith, R. C. Menzies, M. A. Phillips, W. O. Kermack, F.R.S., Sir Edward Bailey, F.R.S., H. B. Nisbet, and Messrs. G. B. Yuille, E. P. Hudson, and G. Halek participated. Professor S. J. Watson proposed the vote of thanks which was carried with great enthusiasm.

EIRE.

Lecture: “The Structure and Enzymic Synthesis of Starch,” by Professor W. N. Haworth, D.Sc., F.R.S., President of the Society.

A most successful meeting of the Eire Local Section was held in the Department of Chemistry, Upper Merrion Street, Dublin, on February 26th, 1946. Professor T. S. Wheeler, Local Representative, presided, and there was a large attendance. The President delivered a lecture illustrated by slides on “The Structure and Enzymic Synthesis of Starch.” He outlined the work of the Birmingham School on amylose and amylopectin and on the synthesis of starch in the plant, the respective rôles of the *P*- and *Q*-enzymes being described. The vote of thanks which was carried with acclamation was proposed by Professor A. O’Farrelly and seconded by Dr. V. Barry. Before the meeting the President and Mrs. Haworth were entertained to dinner by the Members of the Local Section. During his stay in Dublin, the President visited Guinness’s Brewery and the Chemical Departments of Trinity and University Colleges; he was received by the Taoiseach, Mr. De Valera. He was also the Guest of Honour at the annual dinner of Cumann Ceimicidhe nah Eireann (Irish Chemical Association).

LEEDS.

“Crystal Analysis as a Clue to Chemical Problems,” by Mrs. Kathleen Lonsdale, D.Sc., F.R.S.

A joint meeting with the Leeds University Chemical Society was held on March 5th in the Chemistry Department, University of Leeds, Professor E. G. Cox being in the Chair. Dr. Lonsdale described the early history of X-ray analysis and its use in the determination of the structure of molecules, and in chemical identification. At the conclusion of the lecture Professor W. T. Astbury referred to the part played by the lecturer in the development of crystal analysis. A vote of

thanks proposed by Dr. J. MacArthur and seconded by Miss M. I. Simpson was carried with acclamation. The lecture was preceded by films entitled "Handle with Care" and "Buried Treasure."

MANCHESTER.

A meeting for the reading of original papers was held on March 14th in the Chemistry Lecture Theatre of the University, Dr. A. E. Gillam being in the Chair.

(a) "The Diffusion of Dyes into an Absorbing Medium," by H. A. Standing and J. O. Warwicker.

(b) "Aspergillitic Acid. A Synthesis of a racemic 2-hydroxy-3:6-di-*sec.*-butylpyrazine and its relationship to Deoxyaspergillitic Acid," by G. T. Newbold and F. S. Spring.

(c) "Pyrolysis of organic compounds: Preparation of some conjugated dienes," by H. Gudgeon, R. Hill, and E. Isaacs.

(d) "Experiments on the Scholl Reaction," by G. Baddeley and J. Kenner.

NORTHERN IRELAND.

Lecture: "The Structure and Enzymic Synthesis of Starch," by Professor W. N. Haworth, D.Sc., F.R.S., President of the Society.

The President delivered the above lecture in the Chemical Lecture Theatre of Queen's University of Belfast on Monday, March 4th. The Chair was taken by Professor H. Wren. The theatre was filled to capacity. Professor Haworth introduced his subject by giving a brief history of work on starch, and went on to give a graphic and stimulating account of very recent work. The lecture was illustrated by means of lantern slides and was followed by an animated discussion. In conclusion a vote of thanks proposed by Dr. Reid and seconded by Professor Small, was carried with acclamation. The lecture followed a series of visits by the President to various research centres in Belfast.

NORTH WALES.

"The Structure of Boron Hydrides and Related Compounds," by Mr. R. P. Bell, M.A., F.R.S.

The meeting was held jointly with the University College of North Wales Chemical Society on February 21st, Mr. Colin Eaborn occupying the Chair. Mr. Bell reviewed existing experimental evidence on the structure of these compounds, and discussed possible theoretical interpretations of these data. A vote of thanks, proposed by Dr. W. Rogie Angus and seconded by Mr. R. K. Richardson, was carried with enthusiasm.

NOTTINGHAM.

"Colchicine, its Chemistry and some Biological Effects." By Professor J. W. Cook, D.Sc., F.R.S.

A meeting was held on January 25th, at University College, Professor J. M. Gulland, D.Sc., F.R.S., being in the Chair. Professor Cook first described the biological properties of Colchicine, dealing especially with its action as a mitotic poison and then proceeded to discuss its chemical structure. After an interesting discussion, Dr. D. O. Jordan, on behalf of the audience, thanked Professor Cook for his lecture.

SHEFFIELD.

"Light Absorption from a Chemical Standpoint," by Mr. E. J. Bowen, M.A., F.R.S.

A joint meeting with the University Chemical Society was held on February 8th at the University with Professor R. D. Haworth, F.R.S., in the Chair. Mr. Bowen outlined the principles underlying the application of quantum mechanics to chemical problems. Consideration was given to the mechanism of the absorption of radiation by molecules, with special reference to colour, to the optical anisotropy of molecular crystals, and to effects attributable to particular groupings of atoms within the molecule. After an interesting discussion, a vote of thanks to the lecturer proposed by Dr. J. C. Speakman and seconded by Mr. Nightingale was carried with acclamation.

"Some Aspects of the Chemistry of Mono- and Di-Sulphide Links," by Professor F. Challenger, D.Sc.

At the University on March 8th another joint meeting with the University Chemical Society was held under the chairmanship of Professor R. D. Haworth, F.R.S. After a brief historical

survey of the biological methylation of derivatives of arsenic, sulphur, selenium, and tellurium, Professor Challenger gave an interesting summary of the methylation of the $C_nH_{2n+1}S$ group and the fission of the disulphide link $C_nH_{2n+1}S-SC_nH_{2n+1}$ by *S. brevicaulis*. The mechanism of biological methylation was discussed, and the significance of du Vigneaud's experiments using isotopic indicators examined. Following on an interesting discussion, a vote of thanks to Professor Challenger, proposed by Dr. Mabel L. Haigh and seconded by Mr. Neville Smith, was carried with enthusiasm.

SOUTH WALES.

"Recent Work on Soil Biochemistry," by Dr. J. H. Quastel, F.R.S.

A meeting of the Chemical Society was held jointly with the local sections of the Society of Chemical Industry and The Royal Institute of Chemistry on February 22nd, 1946, at University College, Cardiff. The Chair was taken by Mr. W. D. Williams, Chairman of the local section of the Royal Institute of Chemistry. In his lecture, Dr. Quastel, of the Agricultural Research Council, described the work of his unit in this field. He stressed the importance of studying soil as a biological whole, and indicated the wide scope of investigation open to the chemist and biochemist in soil pathology. He dealt in some detail with his recent work on nitrogen and manganese metabolism in soil. After a keen discussion, in which many members took part, a vote of thanks to the lecturer was proposed by Dr. J. Gough, seconded by Mr. R. G. Minor and carried with enthusiasm.

LIST OF APPLICATIONS FOR FELLOWSHIP

(*Fellows wishing to lodge objections to the election of these candidates should communicate with the Honorary Secretaries not later than April 30th, 1946. Such objections will be treated as confidential. The forms of application are displayed in the Library.*)

- ***Acheson, Richard Morrin**, B.A.Hons. (Oxon.). British. 2, Regent Street, Oxford. Research in Organic Chemistry. Signed by : Ronald P. Bell, F. E. King, L. E. Sutton.
- Aldred, John**, A.R.I.C. British. C.W.S. Paint Works, Stockbrook Street, Derby. Works Manager. Signed by : F. Schollick, S. H. Bell, C. H. Young.
- Allen, Leslie Alfred**, D.Sc. and Ph.D. (Lond.), M.Sc. (Reading), F.R.I.C. British. Water Pollution Research Laboratory, Langley Road, Watford. Senior Scientific Officer, Department of Scientific and Industrial Research. Signed by : T. W. Brandon, W. H. J. Vernon, F. Wormwell.
- ***Aller, Basil Vivian**, B.Sc.Hons. (Lond.), A.R.I.C. British. The Corner House, Deepdene Drive, Dorking. Chemist. Signed by : H. J. Foxcroft, J. W. Smith, G. H. Green.
- Askam, Vernon**, Ph.C. British. 82, Park Chase, Wembley. Demonstrator in Chemistry, College of The Pharmaceutical Society, University of London. Signed by : Wilfred H. Linnell, W. J. Arrol, A. D. Mitchell.
- Bailey, John Leggett**, B.Sc. (Lond.), A.R.C.S., A.R.I.C. British. c/o Research Laboratory, Wolsey, Ltd., Abbey Park Mills, Leicester. Research Chemist. Signed by : H. V. A. Briscoe, A. A. Eldridge, Ernest R. S. Winter.
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- Colman, Colin Robert**, Dip.Ing.Chem. (Zurich), A.R.I.C. British. 3, Mosley Avenue, Bury. Chief Chemist, the Holden Vale Manufacturing Co., Haslingden, Lancs. Signed by : J. C. Withers, P. Ofner, G. C. Gibbons.
- ***Corbett, William Michael**. British. Berville, Mountford Lane, Bilston. 2nd Year Honours Chemistry Student, Birmingham University. Signed by : F. W. Pinkard, Paul Arnall, S. R. Carter, C. S. Kipping.
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- Roberts, Frank Wilson**, F.R.I.C. British. Sewage Purification Works, East Hyde, Luton. Chemist. *Signed by* : C. H. Price, C. W. Drane, H. J. T. Ellingham.
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- *Shaw, George Wenham**. British. 14, Thingwall Drive, Barnston, Wirral. Assistant Process Chemist, Tate & Lyle, Ltd., Liverpool. *Signed by* : A. J. Seavell, D. B. Taylor, H. M. Thompson.
- *Shelton, James Harry**. British. 111, Garner Road, Walthamstow, E. 17. Public Analyst's Assistant. *Signed by* : H. Holness, C. G. Hawkins, R. W. Jukes.
- *Shoop, Stanley**, Inter.B.Sc. (Lond.). British. 92, Newark Street; E. 1. Student at the Woolwich Polytechnic. *Signed by* : G. H. Jeffery, Arthur I. Vogel, F. Holmes.
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- *Stott, Geoffrey**, B.Sc. (Wales). British. The Glebe, Roumania Drive, Llandudno. Research Student. *Signed by* : I. Dostrovsky, E. D. Hughes, W. Rogie Angus.
- Thomas, Frederick William**, B.Sc.Hons. (Lond.), A.R.I.C. British. 36, West Park Road, Bramhall. Research Chemist, British Cotton Industry Research Association, Shirley Institute, Didsbury, Manchester. *Signed by* : Douglas W. Hill, R. G. Fargher, J. C. Withers.
- *Todd, Margaret**, B.Sc. (Lond.), A.R.I.C. British. 9, Uphill Road, Mill Hill, N.W. 7. Research Chemist. *Signed by* : H. G. Emblem, Denis E. B. Greensmith, H. Lambourne.
- *Turner, David Warren**. British. 35, Leigh Gardens, Leigh-on-Sea. Reading for B.Sc. degree in Chemistry at University College of South-West England, Exeter. *Signed by* : S. J. Gregg, H. T. S. Britton, K. Schofield.
- Twyman, Frank**, F.Inst.P., F.R.S. British. 98, St. Pancras Way, N.W. 1. Managing Director, Adam Hilger, Ltd. *Signed by* : A. R. Powell, S. Judd Lewis, I. M. Heilbron, E. R. H. Jones.
- Uvarov, Eugene Boris**, B.Sc. (Lond.), A.R.C.S., D.I.C. British. 184, Daventry Road, Coventry. Chemist. *Signed by* : H. Paul, F. Stanley Brown, R. L. Wormell.
- Walker, Frank Arthur**, A.R.I.C. British. 25, Sundial Road, Offerton, Stockport. Chief Chemist. Cornbrook Chemical Co., Ltd., Colour and Chemical Manufacturers, Stockport. *Signed by* : Roy B. Waters, E. B. Robinson, E. Isaacs.
- Warson, Henry**, B.Sc.Hons. (Lond.), A.R.I.C. British. 32, Gunton Road, Upper Clapton, E. 5. Research Chemist, Vinyl Products, Ltd., Butter Hill, Carshalton. *Signed by* : Thomas McLachlan, J. Stewart Cook, J. E. O. Mayne.
- Waye, Basil Edmund**, M.Sc. (Lond.), F.R.I.C., A.R.C.S. British. Larch Gates, Altwod Bailey, Maidenhead. Physicist and Director of Research, British Filters, Ltd., Maidenhead. *Signed by* : F. B. Marmoy, J. G. A. Griffiths, G. L. Riddell.
- Wicker, Ronald James**, B.Sc.Hons. (Lond.), A.R.I.C. British. 644b, London Road, Westcliff-on-Sea, Southend. Chemist in the Research and Analytical Laboratory, London Co-operative Society, Stratford, E. 15. *Signed by* : R. P. Wood, Albert E. Parkes, Laurence S. Bull.
- Wilkinson, John Bertrand**, B.Sc. and Diploma in Dyeing (Leeds), A.R.I.C. British. 59, Beech Way, Twickenham. Chemist; Williams (Hounslow), Ltd., Hounslow. *Signed by* : William Bennett, F. Thomas, Arthur E. James.
- *Wilkinson, William James Talbot**. Natural Sciences Tripos, Part I, 1945, Cambridge. British. 17, Sollershott East, Letchworth. Research Chemist, Royal Aircraft Establishment, Farnborough. *Signed by* : R. J. W. Le Fèvre, John D. Coates, Gilbert Palmer.
- *Williams, Elin Mair Llywelyn**, B.Sc. (Manc.). British. Ashburne Hall, Fallowfield, Manchester, 14. Research Student at Manchester University. *Signed by* : A. E. Gillam, J. K. N. Jones, Colin Campbell.

Wilson, Alan Herries, M.A. (Cantab.), F.R.S. British. 15, Barrow Road, Cambridge. Company Director. Director of Research and Development, Courtaulds, Ltd. *Signed by* : C. H. Bamford, F. Stanley Brown, H. J. Hegan.

UNDER SPECIAL PROVISION APPERTAINING TO CANDIDATES RESIDENT ABROAD.

Dutta, Narendra Nath, M.B. (Calcutta). Indian. 153, Dharamtalla Street, Calcutta. Managing Director, Bengal Immunity Co., Ltd., a biological and pharmaceutical manufacturing concern. *Signed by* : B. B. Dey.

Fragner, George, Dr. Ing. Czechoslovak. 23, Slovenska Str., Prague XII. Leading Director of Pharmaceutical Works, B. Fragner, Prague. *Signed by* : George Lewi, Jacob Pomeranic.

Marcha, Jaro, Dr. (Masaryk University). Czechoslovak. 2n, Dürichovo nam. Prague XIX. Managing Director of Distillers, Ltd., Prague. *Signed by* : George Lewi.

Mitchell, William Vernon, A.R.I.C. British. c/o West African Soap Co., Ltd., Apapa, Nigeria. Soapmaking Chemist employed by Lever Brothers, Port Sunlight, Ltd. *Signed by* : A. E. Findlay, R. R. Butler.

Prasad, Sheonath, M.Sc. (Benares), B.L. (Patna), A.R.I.C. Indian. P.O. Pusa Dist., Darbhanga, Bihar. Soil Biochemist, Central Sugarcane Research Station, P.O. Pusa, Darbhanga. *Signed by* : M. Q. Doja.

* Reduced annual subscription.

PAPERS RECEIVED.

List of papers received between February 7th and March 6th, 1946. (This list does not include the titles of papers which have been read at a Scientific Meeting or which have appeared in the *Journal*.)

"The reduction of *p*-nitrobenzoic acid to hydrazo- and azobenzene-4 : 4'-dicarboxylic acids by means of glucose." By MISS M. L. TOMLINSON.

"The dependence of the viscosities of liquids on reduced temperature and a relation between viscosity, density, and chemical constitution." By L. H. THOMAS.

"The preparation of simple organic orthoborates." By L. H. THOMAS.

"The preparation of mixed organic orthoborates." By L. H. THOMAS.

"Cinnolines. Part VII. Further observations on the Widman-Stoermer reaction." By J. C. E. SIMPSON.

"Enolic derivatives of 3 : 6-diketo- Δ^4 -cholstene." By W. C. J. ROSS.

"A study of the reaction of some nitrosamines with α -naphthylamine hydrochloride." By C. A. PARKER.

"Chromatographic spot tests." By P. P. HOPF.

"Schmidt's so-called '1 : 4-dihydrocarbazole'." By MISS B. M. BARCLAY, N. CAMPBELL, and R. S. GOW.

"The kinetics of absorption of gases from an air stream by granular reagents." By C. J. DANBY, J. G. DAVOUD, D. H. EVERETT, C. N. HINSHELWOOD, and R. M. LODGE.

"A method for the synthesis of tertiary aromatic arsines." By W. E. HANBY and W. A. WATERS.

"Syntheses of some β -chlorinated amines." By A. H. FORD-MOORE, A. G. LIDSTONE, and W. A. WATERS.

"The chlorination of methyl-di(β -chloroethyl)-amine and related compounds." By C. W. CRANE, J. FORREST, O. STEPHENSON, and W. A. WATERS.

"A note on amides derived from ω -chloroacetophenone." By W. A. WATERS.

"Some new glycol mono ethers." By W. J. DUNSTAN.

"The dipole moments of two dichloro-diphenyl-diacetylenes." By G. E. COATES.

"Synthetic antimalarials. Part IX. 4-Arylamino-2-basicalkylamino-6-methylpyrimidines. Further variations." By F. H. S. CURD, MISS M. I. DAVIS, E. C. OWEN, F. L. ROSE, and G. A. P. TUEY.

"Synthetic antimalarials. Part X. Some arylbiguanide derivatives." By F. H. S. CURD and F. L. ROSE.

"The kinetics of some benzidine rearrangements, and a note on the mechanism of aromatic substitution." By M. J. S. DEWAR.

"Amidines. Part II. Preparation of cyanides, amides, and amidines from carboxylic acids." By P. OXLEY, M. W. PARTRIDGE, T. D. ROBSON, and W. F. SHORT.

"Some *p*-alkoxybenzene-sulphonamides and their *N*-chloro-derivatives." By W. E. HANBY and H. N. RYDON.

"The ethylmercuri phosphates." By A. D. AINLEY, L. A. ELSON, and W. A. SEXTON.

"The estimation of sulphur trioxide in sulphur dioxide/sulphur trioxide mixtures by the method of amperometric titration." By D. W. E. AXFORD and T. M. SUGDEN.

"Experiments on the synthesis of the pyrethrins. Part II. The structure of cinerone." By S. H. HARPER.

- "Experiments on the interaction of hydroxy-compounds and phosphorus and thionyl halides in the absence and in the presence of tertiary bases. Part V." By W. GERRARD.
- "Errors in viscosity due to surface tension." By G. BARR.
- "Interpretation of the Sandmeyer reaction. Part VIII. The decomposition of diazonium salts by cupric chloride in neutral and acid solution." By H. H. HODGSON.
- "Fluorescence spectrography as an aid in the identification of compounds." By I. BERENBLUM and MISS R. SCHOENTAL.
- "Ethyl keto-glutaconate." By J. W. CORNFORTH and MRS. R. H. CORNFORTH.
- "Experiments on the synthesis of substances related to the sterols. Part XLIV. By J. W. CORNFORTH and SIR ROBERT ROBINSON.
- "Strychnine and brucine. Part XLII. Constitution of the *neo*-series of bases and their oxidation products." By L. H. BRIGGS, H. T. OPENSHAW, and SIR ROBERT ROBINSON.
- "The action of hydrogen chloride on isoprene." By W. J. JONES and H. W. T. CHORLEY.
- "Preparation and properties of β -chloroalkyl esters of boric, silicic, and phosphoric acids." By W. J. JONES, L. H. THOMAS, E. H. PRITCHARD, and S. T. BOWDEN.
- "The difluorarsines." By L. H. LONG, H. J. EMELÉUS, and H. V. A. BRISCOE.
- "Experiments on the synthesis of purine nucleosides. Part XII. The configuration at the glycosidic centre in natural and synthetic pyrimidine and purine nucleosides." By J. DAVOLL, B. LYTHGOE, and A. R. TODD.
- "Experiments on the synthesis of purine nucleosides. Part XIII. An improved method for the cyclisation of 4-glycosidamino-5-thioformamido-pyrimidines." By G. W. KENNER and A. R. TODD.
- "Experiments on the synthesis of purine nucleosides. Part XIV. An interpretation of some interconversion reactions of *N*-glycosides." By G. A. HOWARD, G. W. KENNER, B. LYTHGOE, and A. R. TODD.
- "Experiments on the synthesis of purine nucleosides. Part XV. The configuration of some synthetic purine and pyrimidine glucosides." By G. A. HOWARD, G. W. KENNER, B. LYTHGOE, and A. R. TODD.
- "Alkyl-oxygen fission in carboxylic esters. Part III. By M. P. BALFE, E. A. W. DOWNER, A. A. EVANS, J. KENYON, R. POPLITT, C. E. SEARLE, and A. L. TÁRNOKY.
- "Alkyl-oxygen fission in carboxylic esters. Part IV." By M. P. BALFE, A. EVANS, J. KENYON, and K. N. NANDI.
- "Alkyl-oxygen fission in carboxylic esters. Part V." By M. P. BALFE, J. KENYON, and R. WICKS.
- "The light absorption and resonance energies of some heterocyclic molecules." By A. MACCOLL.
- "A convenient method of preparation of certain primary amines." By R. BROWN and W. E. JONES.
- "Action of diazomethane on hydroxy compounds and of diazomethane derivatives on phenanthraquinone." By A. SCHÖNBERG and A. MUSTAFA.

LOCAL REPRESENTATIVES OF THE CHEMICAL SOCIETY

- Aberdeen.* T. Harold Reade, M.A., M.Sc., Chemistry Department, Marischal College, The University, Aberdeen.
- Australia.* T. Iredale, D.Sc., F.R.I.C., The University, Sydney, Australia.
- Birmingham.* L. L. Bircumshaw, M.A., D.Sc., Department of Chemistry, The University, Edgbaston, Birmingham, 15.
- Bristol.* C. E. H. Bawn, Ph.D., Chemistry Department, The University, Woodland Road, Bristol.
- Cambridge.* F. S. Dainton, Ph.D., B.A., Sidney Sussex College, Cambridge.
- Canada.* Professor W. D. McFarlane, M.A., Ph.D., Macdonald College, St. Anne de Bellevue, Quebec, Canada.
- Edinburgh.* E. G. V. Percival, D.Sc., Ph.D., F.R.I.C., Chemistry Department, King's Buildings, West Mains Road, Edinburgh.
- Eire.* Professor T. S. Wheeler, D.Sc., Ph.D., F.R.I.C., Chemical Department, University College, Upper Merrion Street, Dublin.
- Exeter.* S. J. Gregg, Ph.D., A.R.C.S., A.R.I.C., Department of Chemistry, Washington Singer Laboratories, Prince of Wales' Road, Exeter.
- Glasgow.* James Bell, D.Sc., Ph.D., F.R.I.C., Chemistry Department, The University, Glasgow, W. 2.
- India.* Sir Shanti S. Bhatnagar, O.B.E., D.Sc., F.R.S., The University, Lahore, Punjab, India.
- Leeds.* F. R. Goss, D.Sc., Ph.D., F.R.I.C., The University, Leeds, 2.
- Liverpool.* A. McGookin, D.Sc., Ph.D., A.R.I.C., Organic Chemistry Department, The University, Liverpool.
- Manchester.* A. E. Gillam, D.Sc., F.R.I.C., Chemistry Department, The University, Manchester.
- „ J. C. Withers, Ph.D., A.R.I.C., Shirley Institute, Didsbury, Manchester.
- Newcastle and Durham.* G. H. Christie, Ph.D., M.Sc., Department of Science, The University, South Road, Durham.
- New Zealand.* Professor F. G. Soper, D.Sc., Ph.D., F.R.I.C., University of Otago, Dunedin, New Zealand.
- Northern Ireland.* H. Graham, D.Sc., A.R.I.C., 26, Malone Hill Park, Belfast.
- North Wales.* W. Rogie Angus, M.A., D.Sc., Ph.D., F.R.I.C., Department of Chemistry, University College of North Wales, Bangor.
- Nottingham.* D. O. Jordan, Ph.D., M.Sc., A.R.I.C., University College, University Park, Nottingham.
- Oxford.* R. P. Bell, M.A., B.Sc., F.R.S., Balliol College, Oxford.
- St. Andrews and Dundee.* J. D. M. Ross, M.B.E., M.A., D.Sc., Chemistry Department, University College, Dundee.
- Sheffield.* Brynmor Jones, B.Sc., Ph.D., Chemistry Department, The University, Sheffield, 10.
- Southampton.* S. H. Harper, B.Sc., D.Sc., Ph.D., A.R.C.S., D.I.C., University College, Southampton.
- South Africa.* Professor W. Pugh, Ph.D., B.Sc., F.R.I.C., Chemistry Department, University of Cape Town, Rondebosch, S. Africa.
- South Wales.* Professor J. E. Coates, O.B.E., D.Sc., F.R.I.C., University College, Singleton Park, Swansea.

THE CHEMICAL SOCIETY

NOTICE OF FORTHCOMING SCIENTIFIC MEETINGS

LONDON (*Burlington House*).

Thursday, May 16th, 1946, at 5 p.m.

Meeting for the reading of the following papers :

- “ Strychnine and brucine. Part XLII. Constitution of the *neo*-series of bases and their oxidation products.” By L. H. Briggs, H. T. Openshaw, and R. Robinson.
- “ The reconversion of *D*-homoandrostandane compounds to derivatives of androstandane.” By D. A. Prins and C. W. Shoppee.

OXFORD.

Thursday, June 6th, at 2 p.m.

Official meeting jointly with the Oxford University Alembic Club.

Discussion, **The Chemistry of Antibacterial Substances**, at the Physical Chemical Laboratory, South Parks Road, Oxford.

Contributions will include the following papers :

- “ Structural Problems in the Chemistry of Antibacterial Substances,” by Sir Robert Robinson, D.Sc., P.R.S.
- “ Some Physico-chemical aspects of Antibacterial action,” by J. M. G. Pryce, B.A., and Professor C. N. Hinshelwood, Sc.D., F.R.S.
- “ Antibacterial agents in relation to bacterial metabolism,” by D. D. Woods, M.A., Ph.D., and a fourth contribution by Dr. E. B. Chain, the subject to be announced later.

Arrangements are being made to provide Luncheon (price 7s. 6d., including gratuity) at the Randolph Hotel, Oxford, at 12.30 p.m. Fellows who wish to attend should communicate as soon as possible, and not later than May 27th, 1946, with F. M. Brewer, Esq., Inorganic Chemical Laboratory, South Parks Road, Oxford.

There will be an interval for tea, after which the discussion will be continued. It is anticipated that the meeting will terminate about 5.45 p.m.

SOUTHAMPTON.

Friday, May 17th, 1946, at 5 p.m.

Lecture, **Nucleoproteins**, by Professor J. M. Gulland, D.Sc., F.R.S.

Friday, May 24th, 1946, at 5 p.m.

Lecture, **Structural Inorganic Chemistry**, by Professor W. Wardlaw, D.Sc., F.R.I.C.

Joint meetings with the University College Chemical Society to be held in the Physics Lecture Theatre of University College.

PROCEEDINGS

OF THE

CHEMICAL SOCIETY.

Minutes of a SCIENTIFIC MEETING

held in the Lecture Hall of the Institution of Mechanical Engineers, Storey's Gate, Westminster, London, S.W. 1, on Thursday, April 4th, 1946, at 2.30 p.m.

The President, PROFESSOR W. N. HAWORTH, D.Sc., F.R.S., was in the Chair.

MINUTES.

The Minutes of the Scientific Meeting held on March 7th, 1946, were taken as read and signed.

FORMAL ADMISSION OF FELLOWS.

The following were admitted Fellows of the Society: A. A. K. Whitehouse, J. Shorter, K. J. Ivin, R. E. Richards, D. M. Duckworth, D. W. Humphries, R. M. Lodge, D. H. Everett, J. R. Blanco, A. P. Rice, R. G. Bowler, A. A. Henley, C. F. Williams, B. R. J. Thomas, J. C. Tatlow, E. J. Bourne, K. I. Speed, R. M. Black.

DISCUSSION.

The President called on Professor H. W. Melville to open the Discussion on "Some Aspects of the Chemistry of Macromolecules." After brief opening remarks by Professor Melville, the following contributions were made:

Part I.

1. "Low-temperature polymerisation processes," by Professor M. Polanyi, Ph.D., M.D., F.R.S.
2. "Kinetics of aqueous phase polymerisation of vinyl compounds," by Professor M. G. Evans, D.Sc.
3. "Polymerisation of vinyl compounds in the gas and liquid phases," by Professor H. W. Melville, Ph.D., D.Sc., F.R.S.

Professor Melville took the Chair in place of the President after the first contribution.

Tea was taken at 4.30 p.m. and the Discussion was continued with the following contributions:

Part II.

4. "Equilibrium properties of high polymer solutions and gels," by Dr. Geoffrey Gee, M.Sc., Ph.D., A.R.I.C.
5. "The study of macromolecules by infra-red spectroscopy," by Dr. H. W. Thompson, M.A., B.Sc., D.Phil., F.R.S.
6. "Study of high polymer structure by X-ray diffraction methods," by C. W. Bunn, Esq., M.A., B.Sc.

Following a general discussion by members of the audience, the Chairman called on the Treasurer, Mr. F. P. Dunn, to propose the vote of thanks. Mr. Dunn stated that it was intended to publish a full account of the meeting and expressed the thanks of the Society to Professor Melville for arranging the Discussion, to the contributors, and to the Institution of Mechanical Engineers for permitting the use of their rooms. The vote was carried with acclamation.

OFFICIAL ANNOUNCEMENTS

DEATHS.

The Council regret to announce the deaths of the following Fellows :

(a) *Honorary Fellows.*

	Elected.	Died.
Auguste Béhal	1933	Feb. 2nd, 1941.
Ernst Julius Cohen	1923	Presumed killed Feb. 1944.
Gilbert Newton Lewis	1923	March 26th, 1946.
Frans Antoon Hubert Schreinemakers	1933	Feb. 1941.

and at the Council Meeting on April 4th, the following resolution was passed :

“ The President, Officers and Council have learned with profound regret of the deaths of these Honorary Fellows of the Society. They record their high appreciation of the services they have rendered to the science of chemistry and mourn the loss of these distinguished colleagues.”

(b) *Fellows.*

	Elected.	Died.
Frank Browne	1893	March 26th, 1946.
Reginald Graham Durrant	1883	Oct. 4th, 1945.
William James Coltart Orr	1941	March 13th, 1946.
Richard Cayley Giffard Moggridge	1942	March 26th, 1946.

CONGRATULATIONS.

The congratulations of the Council have been conveyed by the President to the following Fellows who were elected Fellows of the Royal Society on March 21st, 1946 :

Wilson Baker.	Harry Julius Emeléus.
Frank Dickens.	Harold Warris Thompson.

ACKNOWLEDGMENTS.

The thanks of the Council have been conveyed to Mr. J. R. Heather, Mr. A. Lowe, Miss M. Le Pla, Mr. G. Pleasants, and Dr. F. L. Sos for gifts of publications of the Society.

RESEARCH FUND.

A meeting of the Research Fund Committee will be held in June next.

Applications for Grants, to be made on forms obtainable from the General Secretary, must be received on or before June 1st, 1946. Applications from Fellows will receive prior consideration.

Attention is drawn to the fact that the income arising from the Donation of the Worshipful Company of Goldsmiths is principally devoted to the encouragement of research in Inorganic and Metallurgical Chemistry and that the income from the Perkin Memorial Fund is to be applied to investigations relating to problems connected with the Coal Tar and Allied Industries.

LOCAL REPRESENTATIVES.

(a) *Aberdeen.*

Dr. J. M. C. Thompson has been appointed to succeed Mr. T. Harold Reade, who has resigned, as Local Representative for Aberdeen.

(b) *Glasgow.*

Dr. J. D. Loudon has been appointed to succeed Dr. James Bell, who has resigned, as Local Representative for Glasgow.

The thanks of the Council have been conveyed to the retiring Local Representatives for their valuable services to the Society.

LIST OF FELLOWS 1946.

The co-operation of Fellows is earnestly requested in the preparation of a new List of Fellows. It is proposed to issue to each Fellow a card inviting up to date details of his degrees, etc., and the preparation of the list will be greatly facilitated if Fellows will return this card in the envelope to be provided as soon as possible after it is received by them.

APPEAL FOR COPIES OF THE SOCIETY'S PUBLICATIONS FOR LIBERATED EUROPEAN COUNTRIES.

The Society has been invited to make sets of its publications available for free distribution to important centres in allied countries. Owing to wartime restrictions, the Society is unable to provide sufficient copies of its publications issued during the war years, 1940—1945. The Council has, therefore, decided to appeal to Fellows for further copies of the *Journal*, *Annual Reports*, and *Abstracts* for those years. Any Fellow who is willing to provide such publications for this purpose is invited to notify the General Secretary as soon as possible. No publications should be sent at this stage.

ELECTION OF NEW FELLOWS.

The following 73 candidates were elected Fellows of The Chemical Society on April 4th, 1946 :

Henry George Walter Abraham.	Rosa Anna Fhan-Bader.	Reginald Milton.
David Hemsley Adams.	Philip James Gay.	Patrick Thomas Moore.
Russell James Laurence Allen.	Eric Douglas Gilbert.	Vincent Moss.
Peter Bailes.	John Kenneth Giles.	James Denis Mounfield.
Thomas William Terence Baillie.	Eugene Gluckauf.	Shyamapada Mukherjee.
Alan Hugh Boud.	Frederick John Hall.	William Kenneth Rodgerson Musgrave.
Jean-Pierre Bourquin.	Heinrich Hauptmann.	Norman John Powlesland.
Eric Andrew Bradford.	John Nigel Hawthorne.	William Ross Prentice.
Dora Mary Brasher.	Herbert Eric Hill.	Geoffrey Felix Rice.
Stanley Thomas Patrick Brightwell.	Hubert Brian Hopkins.	Donald Vivian Richmond.
Arthur William Brown.	John Cristiaan George Mervyn Holman.	James Taylor.
Arthur William Bull.	Alexander Cantlay Hutchison.	Christopher Henry Thomas.
James Cathro.	Ronald Alfred Jamsett.	John Desmond Thornton.
John Ritchie Chalmers.	Bijan Bihari Lal.	Eric Frederick James Thorpe.
Cyril Norman Chapman.	Ewart Gordon Lewis.	Reginald Harold Tomlinson.
George Alexander Sutton Clark.	Horace Ernest Johnson.	Joseph Mary Veale.
Norman Owen Clark.	Sydney Walgate Johnson.	Stanley Thomas Walter.
William Thomas Collins.	Barbara Jean Lovell.	John Adam Cunningham Watson.
Albert Charles Cooper.	Peter John Lynskey.	Margaret Whalley.
Peter Bedford Courtney.	Kenneth MacDonald.	Douglas Robert Wallace Wilson.
James Joseph Cowperthwaite.	Keith Graham McInnes.	William Ian Hay Winning.
Clement John Danby.	Robert McIntyre.	Hans Georg Wollenberg.
John Davoll.	Thomas Malcolm.	Stanley Wright.
Harry Kenneth Dean.	Ernest Max May.	Charles Harcourt Wordsworth.
Robert Edwin Eckton.		

MEETINGS OUTSIDE LONDON.

EXETER.

“ Colloids and Rheology—Introductory ” on March 1st, and “ The Stability of Colloidal Systems ” on March 8th, by Dr. E. W. Mardles.

Each lecture was given in the Washington Singer Laboratories at 4.30 p.m. The lectures were remarkable in correlating an extremely wide range of phenomena and subjects, from the strength of materials to the taste of food.

The scope of rheology—the “ science of the flow and deformation of matter ”—was explained in a most interesting manner. Its relevance to the mesomorphic state to plasticity was pointed out, and recent work on muscle fibre touched on.

Greases, embrocations and lubricants were also dealt with and the importance of the “ shape factor ” of the particles on the viscosity of a colloidal system was stressed. The practical and industrial significance of the subjects was illustrated by reference to textiles, rubber, clay, blood, milk, etc.

The lectures were accompanied by a number of very effective diagrams on cards, which were much appreciated by the audience.

LIST OF APPLICATIONS FOR FELLOWSHIP

(Fellows wishing to lodge objections to the election of these candidates should communicate with the Honorary Secretaries before May 31st, 1946. Such objections will be treated as confidential. The forms of application are displayed in the Library.)

Anderson, Alan Stuart, B.Sc.Hons. (Lond.). British. 34, Hollis Street, Alvaston. Research at University College, Nottingham. *Signed by* : G. R. Barker, D. O. Jordan, John C. Roberts, J. Masson Gulland.

***Archer, Bernard Lewis**, B.Sc. (Lond.). British. Chemistry Department, Imperial College, South Kensington, S.W. 7. Research Student. *Signed by* : H. V. A. Briscoe, J. A. Kitchener, A. A. Eldridge.

- *Ashton, Charles Thomas**, B.Sc. (Manc.). British. 230, Moseley Road, Fallowfield, Manchester 14. Research Chemist in the Pharmaceutical Laboratory of The Geigy Co., Ltd., Manchester. *Signed by* : Colin Campbell, I. E. Balaban, E. L. Hirst.
- Bernstein, Nandor**, Dipl.Eng. and Dr.Eng. (Technische Hochschule, Berlin). Hungarian. 10, Kenners Dene, Tyne-mouth. Managing Director, Tyne Chemical Co., Ltd., South Shields. *Signed by* : Richard Raper, G. R. Clemo, Wesley Cocker.
- Bone, John Speirs**. British. 44, Hillfoot Road, Hunts Cross, Liverpool. Works Chemist, Wilson Bros., Bobbin Co., Ltd., Garston, Liverpool. *Signed by* : James Smith, C. Durham Garbutt, W. Lloyd Willey.
- Burfoot, Eric Arthur**, B.Sc.Hons. (Lond.), M.P.S., Diploma in Biochemical Analysis. British. 28, Coventry Road, Beeston. Works Chemist, Chemical Department, Boots Pure Drug Co., Ltd., Island Street, Nottingham. *Signed by* : D. O. Jordan, John C. Roberts, G. R. Barker.
- Burrows, Norman**, National Certificate (General Chemical Technology). British. 45, Wrenbury Avenue, Withington, Manchester, 20. Assistant Chemist in charge of Plant Control. *Signed by* : H. Ainsworth Harrison, R. J. W. Reynolds, J. Logan.
- Clark, Reginald Charles**, B.Sc. (Lond.). British. 54, Merton Avenue, Portchester. Temporary Experimental Officer, Admiralty. *Signed by* : L. Crombie, Stewart A. Hood, David Wyllie.
- *Clayton, David Walton**, B.Sc. (Lond.). British. 117, Clarence Avenue, New Malden. Research Assistant, Organic Chemical Department, The British Leather Manufacturers' Research Association. *Signed by* : R. Ghosh, M. P. Balfe, Kenneth G. A. Pankhurst.
- *Cleaver, George**, B.Sc.Hons. (Leeds), A.R.I.C. British. 15, Cragg Terrace, Horsforth. Works Chemist, Messrs. Brotherton & Co., Ltd., Calder Vale Road, Wakefield. *Signed by* : J. P. Holmes, J. A. Jessop, P. D. Ritchie.
- *Cookson, Gerald Hugh**, B.A. (Cantab.). British. Trinity College, Cambridge. Research Student. *Signed by* : F. G. Mann, B. C. Saunders, B. A. Kilby.
- Crane, Cyril Walter**, B.Sc.Hons. (Lond.). British. The Chart Post Office, nr. Oxted. Research Chemist, Ministry of Supply, Porton, Wilts. *Signed by* : G. S. Hartley, J. Howarth Williams, S. A. Mumford.
- Dunning, William James**, Ph.D. (L'pool). British. Department of Chemistry, The University, Bristol, 8. Lecturer in Physical Chemistry. *Signed by* : T. Malkin, W. Baker, John F. W. McOmie.
- Eggleston, John Arthur**, B.Sc.Hons. (Lond.), A.R.I.C. British. 141, Julian Road, West Bridgford. Superintendent Analytical Chemist. *Signed by* : A. D. Powell, W. F. Elvidge, N. H. Law.
- Frankel, Edmund**, D.Chem. (Vienna). Polish. 23, Howard Gardens, Cardiff. Chief Chemist of Metals Alloys (South Wales), Ltd., Treforest Trading Estate, Pontypridd. *Signed by* : C. A. J. Plummer, E. Levy, G. H. Macadam.
- *Fuller, Eric Bertram**. Subsidiary B.Sc. Physics (Lond.). British. 14, Eldon Avenue, Shirley, Croydon. Assistant Rubber Chemist. *Signed by* : R. W. Hodgkinson, Maurice H. Pearson, D. Deverell.
- Ghosh, Sailaja Prasad**, M.Sc. (Patna). Department of Inorganic and Physical Chemistry, King's College, Newcastle-upon-Tyne, 2. Research student, Durham University. *Signed by* : H. E. Blayden, J. Mills, H. L. Riley.
- Godfrey, Cecil**, A.R.I.C., D.I.C. British. c/o Norgine Pharmaceutical Products, Ltd., 19, Manchester Square, W. 1. Director, Luma Products, Ltd., Norgine Pharmaceutical Products, Ltd. *Signed by* : David M. Freeland, Hubert H. Chambers, E. R. H. Jones.
- Gregory, Cecil Edward**, B.Sc.Hons. and M.Sc. (Wales), A.R.I.C. British. 8, Moor Drive, Headingley, Leeds, 6. Research Chemist. *Signed by* : E. D. Hughes, D. R. Llewellyn, W. Rogie Angus.
- Harvey, Douglas Graham**, B.Sc.Hons. and Ph.D. (Lond.). British. Corry Edge, Linkside, Hindhead. Lecturer in Biochemistry, Department of Physiology, Royal Veterinary College, Camden Town, N.W. 1. *Signed by* : W. R. Boon, W. Robson, E. G. C. Clarke.
- *Haynes, Roy**. British. 2, Manworthy Road, Brislington, Bristol, 4. Junior Analytical Chemist. *Signed by* : T. Malkin, Arthur Marsden, C. E. H. Bawn.
- Jackson, Elliott Garfield**. City and Guilds Certificates in Metallurgy, Electroplating and Analysis. British. 290, St. Pauls Road, Smethwick. Chief Chemist and Metallurgist, Evered & Co., Surrey Works, Smethwick. *Signed by* : George H. Walker, V. S. George, C. Vernon Whittaker.
- Khundkar, Mukarram Hussain**, M.Sc.Hons. (Dacca). Indian. Department of Inorganic and Physical Chemistry, King's College, Newcastle-on-Tyne. Research at Durham University. *Signed by* : K. H. Jack, J. Mills, H. L. Riley.
- *Laurence, Donald John Robert**, B.A. (Cantab.). British. 31, Sherwood Road, Luton. Operational Research, Coastal Command of R.A.F. *Signed by* : E. C. Baughan, P. Johnson, A. J. B. Robertson.
- London, Eric**, B.Sc. (Lond.). British. Rough Nook, 2, Liverpool Road, Lydiate, Liverpool. Research and Development Chemist. *Signed by* : K. T. Chapman, S. Pickholz, J. G. Cockburn.
- Lowe, Harry Marchanton**, M.Sc. (Manc.). British. 190, Coatham Road, Redcar. Chief Chemist, Dorman Long & Co., Ltd., By-products Department, Middlesborough. *Signed by* : A. Scholes, Ernest W. Jackson, N. D. Ridsdale.
- Macmillan, John**, B.Sc.Hons. (Glas.). British. Rhyber Cottages, Cleghorn, Lanark. Post graduate research at Glasgow University. *Signed by* : J. W. Cook, James D. Loudon, S. Horwood Tucker.
- McNeil, Samuel Colin**. British. Castle Farm, Biry, Wells. General Manager and Director of Sutherland Thomson & Co., Ltd. (Scientific Dairy Appliances), and Clarelaid Chemical Co. *Signed by* : C. E. H. Bawn, F. H. Pollard, T. Malkin.
- Mead, Alfred**, Ph.D. (Bristol), A.R.I.C. British. 25, Chestnut Drive, Erdington, Birmingham, 24. Technical Assistant in Patents Department of Dunlop Rubber Co., Fort Dunlop, Erdington, Birmingham. *Signed by* : E. M. Joiner, George King, S. R. Carter.
- Morley, Frank Isaac**, B.Sc. (Lond.), Ph.D. (Heidelberg), A.R.I.C. British. 1, Lover's Walk, Weston-super-Mare. Director of Research and Chief Chemist to Messrs. Wm. Butler & Co. (Bristol), Ltd., St. George, Bristol, 5. *Signed by* : W. E. Garner, W. Baker, T. Malkin, Arthur Marsden.
- Morrison, Robert Ian**, B.Sc. and Ph.D. (St. Andrews), A.R.I.C. British. 3, Winton Circus, Saltcoats, Ayrshire. Research Chemist. *Signed by* : G. G. Freeman, Andrew McLean, David Traill.
- Murti, Bhaskara Rama Murti Polapragada**, B.Sc.Hons.Tech., M.Sc.Hons. and D.Sc. (Andhra), A.R.I.C., Fellow of the Indian Academy of Science. Indian. The Elms, 96, New North Road, Huddersfield, Yorks. Tinctorial Chemist, Government Textile Institute, Madras. *Signed by* : H. H. Hodgson, Thos. A. Simmons, D. P. Dodgson, Robert Raw.

- Ollis, William David**, B.Sc.Hons. (Bristol). British. 56, Cornwall Road, Bishopstone, Bristol, 7. Post-graduate research for Ph.D. at the University of Bristol. *Signed by* : C. E. H. Bawn, W. Baker, T. Malkin.
- *Osbond, John Mervyn**, B.Sc. (Lond.). British. 9, Fortis Green, East Finchley, N. 2. Research Student at King's College. *Signed by* : D. H. Hey, P. C. Crofts, V. Gold.
- *Pinsent, Brian Roy West**, B.Sc.Hons. (Wales). British. Red Gables, Pengluis Road, Aberystwyth, Cards. Research Student. *Signed by* : C. W. Davies, Kurt Heller, L. J. Hudleston.
- *Prince, Reginald Hesketh**. British. 12, Milton Road, Newport, Mon. External Student of the University of London at Cardiff Technical College reading for B.Sc. with Special Chemistry. *Signed by* : J. Ormston, H. B. Watson, Marion Peeling.
- Sahasrabudhe, Madhao Bhalchandra**, M.Sc. (Nagpur). Indian. Courtauld Institute of Biochemistry, Middlesex Hospital Medical School, W. 1. Research Student. *Signed by* : A. E. Wilder Smith, Wilfrid Lawson, Frank Dickens.
- Saunders, Thomas George**, B.Sc. (Lond.). British. 25, Chapman Road, Belvedere, Kent. Research Chemist in Oils and Resins, Coates & Co., Ltd., Easton Street, W.C. 1. *Signed by* : G. M. Bennett, Gwyn Williams, John Honeyman.
- Schulof, Rudolf**, B.Sc. and Ing. (Prague). Czech. c/o United Chemical and Metallurgical Works, Ltd., Stepandka 30, Prague 11. Chemist. *Signed by* : E. Katscher, R. C. Peter, W. H. Banks.
- Sheldrake, Leslie George Dixon**, B.Sc.Hons. (Lond.), A.M.I.Chem.E., Ramsay Diploma in Chemical Engineering. British. 23, Harewood Road, Broad Lane, Coventry, Warwickshire. Chemical Engineer. *Signed by* : C. Diamond, Ernest N. Johnson, H. Paul.
- *Sheppard, Mervyn William Herbert**. National Certificate in Chemistry. British. 50, Mendip Road, Bedminster, Bristol, 3. Assistant Chemist. *Signed by* : Arthur Marsden, W. P. Thistlethwaite, F. H. Pollard.
- *Smith, Roy Henry**, B.Sc.Hons. (Lond.), A.R.C.S. British. 8, Rosedew Road, Hammersmith, W. 6. Temporary Examining Officer, H.M. Patent Office. *Signed by* : J. F. Hopkins, R. G. Atkinson, K. S. Sharples.
- Stent, Howard Braithwaite**, M.Sc.Tech. (Manc.), A.R.I.C. British. Coffee Research Station, Lyamungo, Moshi, Tanganyika. Soil Chemist. *Signed by* : Frederick Challenger, Thomas Kennedy Walker, J. Kenner.
- Stern, Harold Jacob**, B.Sc. (Oxon.), B.Sc. and Ph.D. (L'pool), F.I.R.I., A.R.I.C. British. The Laboratory, Adie Road, Hammersmith Grove, W. 6. Consulting Chemist. *Signed by* : C. A. Redfarn, M. C. J. Boyle, Philip Schidrowitz.
- *Stock, John Albert**, Inter. B.Sc. (Lond.). British. 99, Stoke Road, Gosport. Chemistry student, Portsmouth Municipal College. *Signed by* : C. G. Lyons, C. M. Bere, L. Crombie.
- Sumner, Cyril Gordon**, M.Sc. and Ph.D. (Manc.), A.R.I.C. British. c/o Beecham Research Laboratories, Ltd., Great West Road, Brentford. Senior Research Chemist, Ford Research Department, Beecham Research Laboratories, Ltd. *Signed by* : Robert H. Marriott, Edward F. Eaton, Frank James.
- Tausigova, Hana**, B.Sc.Hons. (L'pool). Czech. Vaclavska 18, Praha II, Czechoslovakia. Research Student. *Signed by* : Francis W. Kay, A. McGookin, George Glaser.
- Thurman, Peter James**, B.Sc.Hons. (Lond.), A.R.I.C. British. 258, Mill Hill Lane, Derby. Research Chemist, The Metal Box Co., Ltd. *Signed by* : J. Masson Gulland, T. E. Bashford, D. O. Jordan.
- Tomich, Edward George**, B.Sc. (Lond.), A.R.I.C. British. 56, St. Mary's Grove, Chiswick, W. 4. Research Chemist. *Signed by* : T. F. Dixon, P. G. Marshall, T. H. Mead.
- Voss, Roland Cesar**, B.Sc.Hons. (Lond.). British. 28, Elm Avenue, Nottingham. Analytical Chemist. *Signed by* : W. F. Elvidge, A. D. Powell, John R. Jarratt.
- *Walker, Joseph**. Higher National Certificate in Chemistry. British. Thornlea, Wagon Lane, Haydock, nr. St. Helens. Assistant III, Ministry of Supply. *Signed by* : H. Webster, Richard Brown, J. F. Jackson.
- White, Henry George**, B.Sc.Hons. (Leeds). British. 42, Kingsway, Alkington, Middleton, Manchester. Chemist engaged on synthetic rubber research. *Signed by* : E. L. Johnson, R. H. Thomson, E. Isaacs.
- *Wilkie, John Strachan**, B.Sc. (Edin.). British. 130, East Trinity Road, Edinburgh, 5. Control Chemist with North British Rubber Co., Ltd., Edinburgh. *Signed by* : A. W. Freestone Chatfield, John D. M. Ross, James Sandilands.
- Willavoys, Herbert James**, B.Sc.Hons., M.Sc., and Ph.D. (Bristol), F.R.I.C., Diploma in Education. British. 31, Logan Road, Bristol, 7. Lecturer. *Signed by* : E. B. Maxted, W. E. Garner, W. Baker, Arthur Marsden.
- *Williams, Donald Charles**, B.Sc.Hons. (Bristol). British. Wills' Hall, Bristol, 9. Research for degree of Ph.D. *Signed by* : C. E. H. Bawn, T. Malkin, T. H. Bevan.
- Wilson, David Scott**, B.Sc. (Glas.), A.R.T.C. British. Enthoven Chemicals, Ltd., Mill Close Works, South Darley, nr. Matlock. Chief Chemist. *Signed by* : Edmund Bishop, Henry G. A. Anderson, F. Rumford.
- *Woodham, Anthony Arthur**, B.Sc. (Edin.). British. Pitchford Hall, nr. Shrewsbury. Research Chemist, J. F. Macfarlan & Co., Edinburgh. *Signed by* : W. L. Glen, Robert G. M. Dakers, Bryce Douglas.
- Wright, John**, B.A. (Oxon.). British. 53, Greenwood Avenue, Laverstock, nr. Salisbury. Research Chemist. Experimental Officer in Chemical Defence Experimental Station, Porton, Wilts. *Signed by* : Ronald P. Bell, G. D. Heath, S. A. Mumford, S. R. Finn.

UNDER SPECIAL PROVISION APPERTAINING TO CANDIDATES RESIDENT ABROAD.

- Blumann, Arnold**, Ph.D. (Gottingen). British. 2, Parkway, Nedlands, Western Australia. Consulting Chemist, Plaimar, Ltd., 169, Havelock Street, West Perth. *Signed by* : G. A. Elliott.
- Bradstreet, Raymond Bradford**, M.S. (Brooklyn). American. 603, Westminster Avenue, Elizabeth, New Jersey. Analytical Research Chemist, Esso Laboratories (Research Division), Standard Oil Development Company, P.O. Box 243, Elizabeth B, N.J. *Signed by* : Per K. Frolich.
- Jarrett, Wilfred Thomas**, B.Sc. (Lond.), A.R.I.C. British. P.O. Box 83, Boksborg North, Transvaal. Refinery Manager, South African Torbunite Mining and Refining Co., Ltd. *Signed by* : S. L. Neppe.
- Martin, Henry**, Ph.D. (Basle). Swiss. c/o J. R. Geigy, S.A., 215, Schwarzwaldallee, Basle. Assistant Manager. *Signed by* : C. Gysin, P. Laeuger.
- Nyrop, Johan Ernst**, B.Sc. (Copenhagen). Danish. 43, Eggersvy, Hellerup, Copenhagen. Consulting Engineer and Chemist. *Signed by* : Henry P. Stevens.

PAPERS RECEIVED

List of papers received between March 4th and April 10th, 1946. (This list does not include the titles of papers which have been read at a Scientific Meeting or which have appeared in the *Journal*.)

- "A new synthesis with maleic anhydride." By ENDRE BERNER.
- "2-Butyne-1 : 4-diol. Part I. Reactions of the hydroxyl groups." By A. W. JOHNSON.
- "2-Butyne-1 : 4-diol. Part II. Reactions involving the triple bond." By A. W. JOHNSON.
- "Studies in the polyene series. Part XXIV. The C₁₇ acid and C₁₈ ketone related to vitamin A." By SIR IAN HEILBRON, E. R. H. JONES, and D. G. O'SULLIVAN.
- "Nitration in sulphuric acid. Part I. The nature of the nitrating agent in nitric-sulphuric acid mixtures." By G. M. BENNETT, J. C. D. BRAND, and G. WILLIAMS.
- "Nitration in sulphuric acid. Part II. Migration of nitric acid to the cathode during electrolysis in oleum solution." By G. M. BENNETT, J. C. D. BRAND, and G. WILLIAMS.
- "Nitration in sulphuric acid. Part III. The influence of nitric acid and other substances upon the oleum-water titration." By J. C. D. BRAND.
- "A note on the reaction between gaseous cyclopentadiene and benzoquinone." By A. WASSERMANN.
- "Constitution of the mucilage from the bark of *Ulmus Fulva* (Slippery elm mucilage). Part II. The sugars formed in the hydrolysis of the methylated mucilage." By R. E. GILL, E. L. HIRST, and J. K. N. JONES.
- "Side-chain bromination of some alkyl-naphthalenes with *N*-bromosuccinimide." By NG. PH. BUU-HOI and J. LECOQ.
- "The thermal decomposition of 2 : 3-dihydro- γ -pyran; a new preparation of acrolein." By J. G. BREMNER, D. G. JONES, and S. BEAUMONT.
- "Molecular compound formation in the polyphenyl series. Part I. Some compounds formed by 4 : 4'-dinitrodiphenyl." By W. S. RAPSON, D. H. SAUNDER, and E. THEAL STEWART.
- "Reactions of ethylene oxides. Part I. Preparation of ethylene sulphides and trithiocarbonates." By C. C. J. CULVENOR, W. DAVIES, and K. H. PAUSACKER.
- "The nature of the 2-chloroethyl chlorovinyl sulphide isomers." By (the late) R. C. G. MOGGRIDGE.
- "Synthesis of rhamnazin." By K. V. RAO and T. R. SESHADRI.
- "Synthesis of 2-arylfurans." By A. W. JOHNSON.
- "Reactions of β -methylarabinoside. Part I. 3 : 4-Benzylidene and 3 : 4-ethylidene β -methylarabino-pyranoside." By M. A. OLDHAM and J. HONEYMAN.
- "Reactions of β -methylarabinoside. Part II. 3 : 4-Acetone β -methylarabino-pyranoside. 3 : 4-Dimethylarabino-se. The conversion of arabinose into xylose." By J. HONEYMAN.
- "The alkyl- and aryl-substituted fluorides of sulphur, selenium, tellurium, and iodine." By H. J. EMELÉUS and H. G. HEAL.
- "The chemistry of the higher silanes. Part I. Tetrasilane." By H. J. EMELÉUS and A. G. MADDOCK.
- "The solubility of sulphur dioxide in fuming sulphuric acid." By F. D. MILES and T. CARSON.
- "Condensation of substituted benzaldehydes with creatinine. Influence of substituents." By V. DEULOFEU and M. FONDOVILA.
- "The intracellular vibration frequency of ions in solution." By E. A. MOELWYN-HUGHES.
- "Metal sulphide catalysis of a simple cracking reaction." By B. S. KHAMABATA and A. WASSERMANN.
- "2 : 4-Dinitrophenylhydrazone of *n*-valeraldehyde." By R. S. AIRS, D. A. FIRTH, and P. J. GARNER.
- "The photochemical instability of *cis*- and *trans*-4 : 4'-diaminostilbene." By A. J. HENRY.
- "Antiplasmodial action and chemical constitution. Part VIII. Guanidines and biguanides." By H. KING and I. M. TONKIN.
- "The preparation of 4-aminophenyl sulphones. Part II. The reaction between 4-acetamidobenzene-sulphinic acid and aromatic nitroso compounds." By S. PICKHOLZ.
- "Synthesis of acenaphthene. Part II." By A. SCHÖNBERG, R. MOUBASHER, and A. MOSTAFA.
- "The autoxidation of methyl oleate in presence of small proportions of methyl linoleate." By F. D. GUNSTONE and T. P. HILDITCH.
- "New syntheses of heterocyclic compounds. Part VII. 6 : 8-Dimethyl-9-amino-7 : 10-diazaphen-anthrenes." By V. A. PETROW.
- "New syntheses of heterocyclic compounds. Part VIII. The Schmidt rearrangement of 1 : 3-dimethyl-2-azafuorenones (*contd.*)" By V. A. PETROW.
- "Strychnine. Part II." By G. R. CLEMO and R. RAPER.
- "The mechanism of the Bucherer reaction. Part I. The kinetics of the conversion of naphthylamines to naphthols." By W. A. COWDREY and C. N. HINSHELWOOD.

- "The mechanism of the Bucherer reaction. Part II. Isolation of bisulphite compounds from naphthionic acid." By W. A. COWDREY.
- "The mechanism of the Bucherer reaction. Part III. Kinetics of the reaction between naphthol-sulphonic acids and sodium bisulphite." By W. A. COWDREY.
- "The mechanism of the Bucherer reaction. Part IV. The kinetics of the conversion of naphthols to naphthylamines." By W. A. COWDREY.
- "Strychnine and brucine. Part XLIII. Cunine carboxylic acid." By H. L. HOLMES, H. T. OPENSHAW, and (SIR) ROBERT ROBINSON.
- "Some derivatives of catechol and pyrogallol. Part I." By R. D. HAWORTH and D. WOODCOCK.
- "Some derivatives of catechol and pyrogallol. Part II." By R. D. HAWORTH and A. H. LAMBERTON.
- "Addition of nitrogen tetroxide to olefins. Part I. General introduction." By N. LEVY and C. W. SCAIFE.
- "Addition of nitrogen tetroxide to olefins. Part II. Ethylene." By N. LEVY, C. W. SCAIFE, and A. E. WILDER SMITH.
- "Addition of nitrogen tetroxide to olefins. Part III. Propylene." By N. LEVY and C. W. SCAIFE.
- "The preparation of quinoline derivatives from aromatic amines and ethyl ethoxymethylenemalonate." By K. SCHOFIELD and J. C. E. SIMPSON.
- "Cinnolines. Part VIII. Esters of 4-hydroxy-cinnoline- and -quinoline-3-carboxylic acids." By J. C. E. SIMPSON.
- "Steric inhibition of resonance. Part III. The basic strengths of some dimethyl-substituted aromatic primary and tertiary amines." By G. THOMSON.
- "Researches in the phenanthridine series. Part VII. Quaternary salts with urethane and urea substituents." By L. P. WALLS.
- "4-*n*-Propyl-picolinic and -pipercolinic acids. Limitations of the Wibaut-Arens reaction with substituted pyridine derivatives." By W. SOLOMON.
- "The chemistry of the pyrrocolines. Part I. 2-Methyl- and 2-phenyl-pyrrocoline." By E. T. BORROWS, D. O. HOLLAND, and J. KENYON.
- "The chemistry of the pyrrocolines. Part II. Nitroso-derivatives of some substituted pyrrocolines." By E. T. BORROWS, D. O. HOLLAND, and J. KENYON.
- "The chemistry of the pyrrocolines. Part III. Nitration." By E. T. BORROWS, D. O. HOLLAND, and J. KENYON.
- "The chemistry of the pyrrocolines. Part IV. Reduction of acyl derivatives." By E. T. BORROWS, D. O. HOLLAND, and J. KENYON.
- "Strychnine and brucine. Part XLIV. Synthetical experiments. Part II." By H. L. HOLMES, H. T. OPENSHAW, and (SIR) ROBERT ROBINSON.
- "The application of the method of molecular rotation differences to steroids. Part III. Steroidal hormones and bile acids." By D. H. R. BARTON.
- "A study of the mechanism of oxidation with chromic acid." By W. A. WATERS.

PROCEEDINGS
OF THE
CHEMICAL SOCIETY.

Minutes of a
SCIENTIFIC MEETING

held at Burlington House, Piccadilly, W. 1, on Thursday, May 16th, 1946, at 5 p.m.

The President, PROFESSOR C. N. HINSHELWOOD, Sc.D., F.R.S., was in the Chair.

MINUTES.

The Minutes of the Scientific Meeting held on the 4th April, 1946, were read and signed.

FORMAL ADMISSION OF FELLOWS.

The following were admitted Fellows of the Society: H. R. Bentley, Loo Ti-hi, R. M. Acheson, R. E. Bowman, T. J. King, D. G. Felton, A. M. Stephen, W. Klyne, V. N. Perryman, (Miss) J. D. Sutton, A. D. Kemp, N. Polgar, S. Shoop, R. J. Wicher, E. F. Thorpe, K. H. Pausacker.

SCIENTIFIC COMMUNICATIONS.

The following papers were read and discussed:

"Strychnine and Brucine. Part XLII. Constitution of the *neo*-series of Bases and their Oxidation Products." By L. H. Briggs, H. T. Openshaw, and Sir Robert Robinson.

"The Reconversion of D-Homoandrostandane Compounds to Derivatives of Androstandane." By D. A. Prins and C. W. Shoppee.

OFFICIAL ANNOUNCEMENTS

DEATH.

The Council regret to announce the death on April 6th, 1946, of Alan Francis Titley who was elected a Fellow of the Society on February 19th, 1920.

LIVERSIDGE LECTURE.

Professor H. C. Urey has accepted the invitation of the Council to deliver the Liversidge Lecture during the session 1946—1947.

ERNST JULIUS COHEN MEMORIAL LECTURE.

Professor F. G. Donnan has accepted the invitation of the Council to deliver the Ernst Julius Cohen Memorial Lecture.

SCIENTIFIC MEETINGS IN LONDON, 1946—1947.

As an experiment it has been decided to hold Scientific Meetings at 7.30 p.m. until December 1946, instead of 5 p.m. as at present.

ACKNOWLEDGMENTS.

The thanks of the Council have been conveyed to Dr. G. L. E. Wild for a gift of the Society's publications.

LIST OF FELLOWS.

The co-operation of Fellows is earnestly requested in the preparation of a new List of Fellows. It is proposed to issue to each Fellow a card inviting up to date details of his degrees, etc., and the preparation of the list will be greatly facilitated if Fellows will return this card in the envelope to be provided as soon as possible after it is received by them.

ELECTION OF NEW FELLOWS.

The following 88 candidates were elected Fellows of the Chemical Society on the 2nd May, 1946 :

Richard Morrin Acheson.	George Alexander Gray.	Raymond Bliss Richards.
John Aldred.	Edwin Ian Greig.	Thomas Norman Richardson.
Leslie Alfred Allen.	Rowland Hill.	Dudley Ridge.
Basil Vivian Aller.	Olive Mary Hooper.	Douglas Keir Roberts.
Vernon Askam.	Donald Arthur Hubbard.	Frank Wilson Roberts.
John Leggett Bailey.	William Bell Hutcheson.	John Norman Robson.
Alan Edward Blades.	Michael Irwin.	Rose Mary Sales.
Cecil Bloom.	Archibald Robert Jamieson.	Louis Kenneth Sharp.
Ralph Edward Bowman.	Oscar Watson Jarvis.	George Wenham Shaw.
Joseph Henry Brooks.	George Johnson.	James Harry Shelton.
Hamish Brisbane Cameron.	Albert Joseph Kelly.	Stanley Shoop.
Stanley Frederick Chancellor.	Alexander Donovan Kenny.	Terence Anthony George Silk.
John Cecil Charlton.	Har Gobind Khorana.	Frederick Ivan Gordon Small.
Peter Albert Charwood.	Siegmund Kut.	John Frederick Smith.
Colin Robert Colman.	Francis Norman Lahey.	Bernard Alfred Southgate.
William Michael Corbett.	Joseph Mundle Laverie.	Geoffrey Stott.
Percy Walmsley Cunliffe.	Douglas Mathon Gent Lloyd.	Frederick William Thomas.
Deryck Harry Derbyshire.	Jaro Marcha.	Margaret Todd.
William Paterson Dore.	William Henry Simpson Massie.	David Warren Turner.
Angus Drysdale.	Edward Stewart Maurer.	Frank Twyman.
Narendra Nath Dutta.	William Vernon Mitchell.	Eugene Boris Uvarov.
Colin Eaborn.	Oliver Charles Musgrave.	Frank Arthur Walker.
Cyril Harry Richard Elston.	Geoffrey Norcross.	Henry Warson.
Margaret Kerr Fleming.	Stanley Cecil Nyburg.	Basil Edmund Waye.
Arthur Henry Ford-Moore.	Gerald Maurice Pam.	Ronald James Wicker.
George Fragner.	Peter Ludwig Pauson.	John Bertrand Wilkinson.
John Leslie Francis.	Victor Neil Perryman.	William James Talbot Wilkinson.
David Friend.	Sheonath Prasad.	Elin Mair Llywelyn Williams.
Jack Gaunt.	Stanley Carter Price.	Alan Herries Wilson.
Victor Peter Gellay.		

MEETINGS OUTSIDE LONDON.

SOUTHAMPTON.

"Penicillin," by A. H. Cook, Ph.D., D.Sc., F.R.I.C.

Activities of the Chemical Society in the Southampton area were inaugurated in an auspicious manner on Friday, May 3rd, by a joint meeting with the University College Chemical Society, held in the Physics Lecture Theatre, University College, Southampton. Professor Sir Ian Heilbron had intended to speak on the "Chemistry of Penicillin," but owing to absence on a visit to the U.S.A. was prevented from lecturing. At relatively short notice his place was taken by Dr. A. H. Cook. The Lecturer was introduced to the crowded audience by Mr. H. W. B. Reed.

Dr. Cook, of the penicillin team at the Imperial College of Science and Technology, gave an exceptionally interesting and lucid account of the complexities of penicillin chemistry. A method of purification in the laboratory was described and also the experiments leading to the view that penicillin is in fact a series of compounds of related structure. The degradation of these and structural proofs of the products were outlined. This led to consideration of the possible structures for the penicillins themselves and the partial syntheses that have been carried out. The lecture was followed by vigorous discussion. A vote of thanks, carried with acclamation, was proposed by Dr. S. H. Harper (Local Representative of the Society).

LIST OF APPLICATIONS FOR FELLOWSHIP

(Fellows wishing to lodge objections to the election of these candidates should communicate with the Honorary Secretaries not later than June 30th, 1946. Such objections will be treated as confidential. The forms of application are displayed in the Library.)

- Anderson, John Gerrard.** British. 58, Evan Drive, Giffnock, Glasgow. Student of Chemistry. Signed by : W. M. Cumming, W. G. Alexander, Henry G. A. Anderson, I. V. Hopper, John A. Cranston.
- Bailey, Harold Cecil,** B.Sc.Hons. (Lond.), A.R.I.C. British. 7, Boundaries Road, Feltham. Technical Assistant, Ministry of Supply. Signed by : A. E. Corker, Cecil L. Wilson, G. G. S. Dutton.
- *Bending, Betty Doreen,** B.Sc.Hons. (Wales). British. 38, Wyeverne Road, Cathays, Cardiff. Teacher of Chemistry, Edgehill College, Bideford. Signed by : W. J. Jones, N. M. Cullinane, S. T. Bowden.

- Boucher, Alfred Arnold.** French. c/o Union Glue and Gelatine Co., Ltd., Gransley Works, Garrett Lane, E.C. 1. Managing Director. *Signed by:* Royston Barry Drew, Roger Duncalfe, N. L. Holmes.
- Butterworth, Basil.** B.Sc. (Lond.), A.R.I.C. British. Longview, Church Grove, Amersham. Research Chemist. *Signed by:* F. C. Harper, W. G. Grindle, D. G. R. Bonnell.
- Campbell, Colin.** B.Sc. (Manc.). British. c/o Savory and Moore, Ltd., Standard Works, Lawrence Road, Tottenham, N. 15. Organic Chemist. *Signed by:* S. G. Stevenson, E. T. Neathercoat, Frank G. Dewdney.
- Cherry, Alexander William.** British. Ivanhoe, Lickey Rock, Bromsgrove. Chief Chemist, William Mills Ltd., Friar Park, Wednesbury. *Signed by:* T. G. Pearson, A. C. Coates, L. L. Bircumshaw.
- *Cohen, David Lionel.** Inter.B.Sc. British. 265, Blackley New Road, Manchester 9. Student at Manchester University. *Signed by:* A. E. Gillam, Colin Campbell, Fred Fairbrother.
- *Cornish, Frank William.** Inter.B.Sc. (Lond.). British. 120, Beccles Drive, Barking. Student at University College of the South West, Exeter. *Signed by:* K. Schofield, H. T. S. Britton, R. King.
- *Crawley, Ralph Hugh Alfred.** B.Sc. (Lond.), A.R.C.S., A.R.I.C. British. 3, Sunnymede Avenue, Carshalton. Chemical Analyst. *Signed by:* P. J. Hardwick, B. A. Ellis, C. E. Barton.
- Dunn, Michael Isidore.** A.R.T.C. (Salford). British. 8, Galway Avenue, Bispham, Blackpool. Royal Air Force. *Signed by:* H. B. Watson, J. Ormston, W. D. Williams.
- Falconer, Roderick.** B.Sc. and Ph.D. (Lond.), A.R.I.C. British. 17, The Close, Chilwell. Biochemist. *Signed by:* G. Sykes, John W. Albans, Harold Calam.
- Farthing, Alan Charles.** B.A.Hons. (Oxon). British. Chomlea, Claremont Road, Salford, 6. Chemist, I.C.I. Ltd., Dyestuffs Division, Blackley, Manchester. *Signed by:* G. D. Parkes, S. G. P. Plant, D. Ll. Hammick
- Forsyth, James Sneddon.** B.Sc. (Glas.), Ph.D. (Leeds), A.R.I.C. British. 141, Wensley Drive, Leeds, 7. University Lecturer. *Signed by:* H. J. Hodsman, D. T. A. Townend, A. L. Roberts.
- Francis, Nehemiah.** Ph.C. British. Mount Pleasant, Wellow, near Yarmouth, Isle of Wight. Lecturer in Pharmaceutics, Portsmouth Municipal College. *Signed by:* C. G. Lyons, L. Crombie, C. M. Bere.
- Gilbert, Geoffrey Alan.** M.A. and Ph.D. (Cantab.). British. 5, Ascot Road, Moseley, Birmingham. Research Fellow. *Signed by:* L. L. Bircumshaw, W. N. Haworth, J. Sheridan.
- Gottfried, Siegfried.** M.D. and D.Sc. (Paris). Rumanian. 93, Kingshill Avenue, Kenton. Consultant and Works Manager. *Signed by:* M. Briscoe, A. B. Curtis, Robt. E. Goldsbrough.
- *Grieve, Alan.** Inter.B.Sc. (Lond.). British. 20, Norbury Avenue, Thornton Heath. Student of Metallurgy, Cardiff University. *Signed by:* Ian H. Slicer, N. M. Cullinane, S. J. Chard.
- Grove, John Frederick.** B.Sc. (Lond.). British. c/o Imperial Chemical Industries Ltd., Jeallots Hill Research Station, Bracknell. Research Chemist. *Signed by:* John C. McGowan, Kathleen J. Sinclair, Francis M. Page.
- *Grundy, Jesse.** Inter.B.Sc. English. 7, Moore Street, Whelley, Wigan. Student, Manchester University. *Signed by:* A. E. Gillam, F. Fairbrother, H. T. Openshaw.
- Herz, Edward Richard.** Inter.B.Sc. German (applying for Naturalisation). 40, Princes Court, Wembley. Assistant Chemist. *Signed by:* Yvonne M. Way, W. Robson, C. E. Dent.
- Hetherington, Arthur Clement.** B.Sc. and Ph.D. (Edin.), A.R.I.C. British. Wayside, Elm Close, Farnham Common. Research Chemist, Manager, Technical Relations Department, I.C.I. Ltd., Paints Division, Wexham Road, Slough. *Signed by:* J. R. Hosking, D. V. Arnold, J. W. Dorling.
- Hodges, William Samuel.** B.Sc. (Lond.), A.R.I.C. British. 22, Ravensfield Road, Welwyn Garden City. Chemist. *Signed by:* J. F. Hirst, Richard N. Jones, J. Alan Emlyn.
- *Howland, Alfred Harold.** B.Sc.Hons. (Lond.). British. 30, Harvel Crescent, Abbey Wood, S.E. 2. Research Chemist at Celanum Ltd., Friars Watch, Walthamstow. *Signed by:* C. Bloomfield, D. B. Smith, W. D. Parker.
- *Hunt, Eric William.** B.Sc.Hons. and Dyeing Diploma (Leeds), A.R.I.C. British. Devonshire Hall, Headingley, Leeds, 6. Research Student. *Signed by:* F. R. Goss, Frederick M. Rowe, E. Race, Arnold T. Peters.
- Jackson, Alistair Frederick McKenzie.** B.Sc. (Lond.). British. 53, Gains Road, Southsea. Research Chemist at Walter Gregory & Co., Wellington, Somerset. *Signed by:* David Wyllie, L. Crombie, K. G. McInnes.
- James, Anthony Trafford.** B.Sc.Hons. (Lond.). British. 3, Endsleigh Street, W.C. 1. Scientific research on behalf of the Medical Research Council. *Signed by:* B. R. Jacobs, E. E. Turner, Mary S. Lesslie.
- Jones, Herbert Edwin.** B.A. and B.Sc. (Oxon.), F.R.I.C. British. Avondene, Chester Road, Northwich. Technical Service Manager, I.C.I. Ltd., Alkali Division, Northwich. *Signed by:* J. Ferguson, J. Haslam, L. M. Clark.
- Kohn, David Harry.** Chem. Eng. (Haifa). Palestinian. 136, Wymering Mansions, W. 9. Research in Organic Chemistry at King's College, London. *Signed by:* D. H. Hey, Gwyn Williams, P. C. Crofts.
- Lain, Archibald Ernest.** A.R.I.C., M.P.S. British. 42, Osidge Lane, N. 14. Works Chemist. *Signed by:* L. A. Jordan, S. H. Bell, A. C. C. Newman.
- Lewin, Christina Thomson.** B.Sc. (Glas.). British. Chemistry Department, The University, Glasgow. Lecturer, Chemistry Department. *Signed by:* James Bell, James D. Loudon, J. W. Cook.
- Lincoln, Philip Arthur.** B.Sc. (Lond.). British. 16, Cheyne Avenue, Woodford, E. 18. Works Chemist. *Signed by:* Charles S. Gibson, H. Holmes, K. O. Michaelis.
- Mackinnon, Alan.** B.Sc. (Glas.), A.R.I.C. British. The Edinburgh Essence Co., Ltd., Silvermills, Edinburgh, 3. Analytical Chemist. *Signed by:* A. Scott Dodd, J. W. Cook, C. Buchanan.
- Marler, Clive William Coker.** British. G2, Meece House Annexe, Cold Meece, Stone. Analytical Chemist with the Chief Chemical Inspector, Ministry of Supply. *Signed by:* W. F. Bennett, Frederick J. Hall, A. H. Coates.
- Moir, Daniel Donald.** M.Sc. (Lond.), F.R.I.C. British. Analytical Laboratory, 16, Southwark Street, S.E. 1. Public Analyst and Consulting Chemist. *Signed by:* Edward Hinks, H. Amphlett Williams, George W. Ferguson.
- Morris, Ernest Devereux.** B.Sc.Hons. (Lond.), F.R.I.C. British. 46, Beverley Road, Whyteleafe. Industrial Chemist, Morgan Crucible Co., Ltd., S.W. 11. *Signed by:* S. Sugden, F. H. Milner, H. J. T. Ellingham.
- Newbury, Bert Charles.** B.Sc.Hons. (Bristol), A.M.Inst.F. British. 1, Grove Terrace, Wolveston Road, Billingham. Chemist. *Signed by:* W. E. Garner, F. R. Williams, A. J. Prince.
- Newton, Guy Geoffrey Frederick.** British. Fairfield Bury, St. Ives, Hunts. Student, Part II Natural Sciences Tripos, Cambridge University. *Signed by:* F. S. Dainton, B. C. Saunders, A. J. B. Robertson.
- Onyon, Peter Frederick.** A.R.I.C. British. 30, Crampers Field, Coventry. Technical Assistant, Courtaulds Ltd. *Signed by:* W. Etheridge, H. J. Hegan, R. L. Wormell.

- ***Pierpoint, Edward Keith**, B.Sc.Hons. (L'pool). British. 10, Wembley Road, Liverpool, 18. Post graduate work at University. *Signed by* : A. McGookin, W. B. Whalley, N. J. Cartwright.
- ***Poppy, Richard Gilbert**. British. 73, Eden Road, Elmers End, Beckenham. Laboratory Assistant, Wellcome Physiological Research Laboratories, Langley Court, Beckenham. *Signed by* : E. A. Seeley, Ethel Bidwell, C. G. Pope.
- Raynor, Mrs. Emily Jean**, M.A. and D.Phil. (Oxon), A.R.I.C. British. 76, Witherford Way, Selly Oak, Birmingham, 29. Chemistry Mistress, King Edward VI Grammar School for Girls, Camp Hill, Birmingham, 11. *Signed by* : Harry Irving, J. W. Linnett, F. M. Brewer.
- ***Ross, John Alexander**, B.Sc.Hons. (Dun.). British. 4, Kielder Road, Earsdow, Shiremoor. Assistant Chemist, Bakelite Ltd. *Signed by* : H. L. Riley, P. L. Robinson, W. M. Madgin.
- ***Royer, Richard Penn**, B.Sc. (Sydney). British. 41, Parriwi Road, Mosman, N.S.W., Australia. Research Fellow, University of Sydney. *Signed by* : Adrien Albert, J. C. Earl, D. J. Brown.
- ***Rundell, John Trethowan**, B.Sc. (Lond.), A.R.C.S. British. 124, Goddington Lane, Orpington. Works Chemist, Kolster-Brandes, Sidcup. *Signed by* : Walter A. Woodrow, P. W. L. Gossling, H. V. A. Briscoe.
- Silcocks, Clifford George**, B.Sc.Hons. and Ph.D. (Bristol), A.R.I.C. British. 41, Basbow Lane, Bishop's Stortford. Research Chemist. *Signed by* : Martin Apley, D. N. Buttrey, George Bell.
- Simpson, Thomas Hardy**, B.Sc. (L'pool). British. 85, South Promenade, St. Annes-on-Sea. Research Student, Liverpool University. *Signed by* : A. McGookin, Francis W. Kay, Wm. Doran.
- ***Sneeden, Raymond Philippe Alexandre**, B.Sc.Hons. (Glas.). British. 39, Kingshouse Avenue, King's Park, Glasgow, S. 4. Research Student. *Signed by* : J. W. Cook, S. Horwood Tucker, David T. Gibson.
- Stevens, William Henry**, A.R.C.S., F.R.I.C. British. 7, Page Heath Lane, Bickley. Consulting Chemist. *Signed by* : Philip Schidrowitz, T. H. Blakeley, M. B. Donald.
- ***Stock-Dunne, Michael Patrick**, B.Sc. (Lond.), A.R.I.C. British. Organon Laboratories, Deer Park Road, Lombard Road, Morden. Chemist. *Signed by* : C. L. Hewett, H. J. T. Ellingham, R. L. Collett.
- Strom, Eric Greve**, B.Sc. (Melbourne). British. 34, Eildon Road, St. Kilda, Victoria, Australia. Research Chemist. *Signed by* : S. F. Birch, W. S. Cockayne, W. J. Oldham.
- ***Turner, Philip Beckett**. British. 6, Sharpe Avenue, Beauchief, Sheffield, 8. Chemistry Student of Lincoln College, Oxford. *Signed by* : Ronald P. Bell, T. J. King, N. V. Sidgwick.
- ***Watson, George Arthur**, Inter.B.Sc. (Lond.). British. 45, Blakelock Terrace, West Hartlepool. Laboratory Assistant at the South Durham Steel and Iron Co., Ltd. *Signed by* : G. H. Christie, Leonard T. Raeburn, G. W. Watson Young.
- Wesley, Frank**, A.R.I.C., M.P.S. British. 40, Onslow Drive, Sidcup. Analytical Chemist. *Signed by* : L. M. Miall, Stephen Miall, D. M. Freeland.
- Williams, William Frank**, B.Sc. (L'pool), A.R.I.C. British. 113, Old Clough Lane, Worsley, Manchester. Technical Representative. *Signed by* : C. G. Hampson, Geoffrey Ogden, H. Jasperson.

UNDER SPECIAL PROVISION APPERTAINING TO CANDIDATES RESIDENT ABROAD.

- Avramoff, Moise Haim**, M.Sc. (Jerusalem). Palestinian. 34, Wolfson Street, Petah-Tiqva, Palestine. Chemist at Assia Chemical Laboratories, Tel Aviv. *Signed by* : M. M. Neeman.
- Bhagvat, Madhav Balaji**, M.Sc. (Bombay), A.I.I.Sc. British. Tata Chemicals Ltd., P.O. Mithapur, Kathiawad, India. Works Superintendent. *Signed by* : K. Venkataraman.
- Croston, Frank C.**, M.A. and Ph.D. (Ohio State Univ.). American. c/o Battelle Memorial Institute, 505, King Avenue, Columbus 1, Ohio. Research Chemist and Engineer. *Signed by* : John D. Sullivan.
- Diaz, Fernando Orozco**, Ph.D. (Marburg/L.), Chem.Eng. (Mexico). Mexican. Instituto de Quimica, Cruces 5, Tacuba, D.F., Mexico. Director of the Instituto de Quimica of the University of Mexico. *Signed by* : Octavio Mancera.
- Evans, Basil Edward**, M.I.Chem.E. British. La Productora de Borax S.A., Apartado 391, Barcelona, Spain. Works Manager (Borax Consolidated Ltd.). *Signed by* : A. J. Somers.
- Gemmell, Gordon Douglas**, M.Sc.Hons. British. c/o Soil Research Bureau, Department of Scientific and Industrial Research, 54, Molesworth Street, Wellington, New Zealand. Soil Chemist, Soil Research Bureau. *Signed by* : J. K. Dixon, R. B. Miller.
- Johannesson, John Ker**, M.Sc. (New Zealand). British. c/o Soil Research Bureau, 54, Molesworth Street, Wellington, New Zealand. Assistant Soil Chemist. *Signed by* : R. B. Miller, J. K. Dixon.
- Lazier, Wilbur Arthur**, M.S. and Ph.D. (Winconsin). American. 917, South 20th Street, Birmingham, 5, Alabama. Director, Southern Research Institute. *Signed by* : Hugh S. Taylor.
- Nasanen, Reino Olavi**, Ph.D. (Helsinki). Finnish. Unionink 40, Helsinki, Finland. Lecturer in Chemistry in the University of Helsinki. *Signed by* : G. T. Ostling, Walter Wahl.
- Seshan, Pallassena Krishna**, M.Sc. (Madras), A.R.I.C. Indian. 35/3 Hanbury Road, Kirkee, G.I.P., India. Chemist, High Explosives Factory, Kirkee. *Signed by* : B. B. Dey.
- Stein, Walter Edward**, D.Sc. (Prague), A.M.I.Chem.E. Czechoslovakian. H.M. Cordite Factory, Aruvankadu The Nilgiris, South India. Assistant Civil Engineer and Assistant Works Manager, Indian Ordnance Service. *Signed by* : M. B. Donald.

* Reduced Annual Subscription.

PAPERS RECEIVED

List of papers received between April 10th and May 13th, 1946. (This list does not include the titles of papers which have been read at a Scientific Meeting or which have appeared in the *Journal*.)

- "Strychnine and brucine. Part XLV. Synthetical experiments. Part III." By H. T. OPENSHAW and (SIR) ROBERT ROBINSON.
- " Δ^9 -Androstene-3 : 17-dione." By C. W. SHOPPEE.
- "Decompositions of the aromatic diazo-compounds. Part XI. A note on the mechanism of formation of azo-compounds, polyaryls, and aryl sulphides." By K. H. SAUNDERS and W. A. WATERS.
- "The tetrazotisation of the 1 : 5- and 1 : 8-naphthylenediamines and the tetranitration of the naphthalene-1 : 5- and 1 : 8-di-*p*-toluenesulphonamides." By H. H. HODGSON and J. S. WHITEHURST.
- "Studies in light absorption. Part III. Auxochromic properties and the periodic system." By K. BOWDEN, E. A. BRAUDE, and E. R. H. JONES.
- "Researches on acetylenic compounds. Part VI. Carbinols derived from methyl β -chlorovinyl ketone and their conversion to unsaturated aldehydes." By E. R. H. JONES and B. C. L. WEEDON.
- "Researches on acetylenic compounds. Part VII. Reactions of 2-chlorohex-3-en-5-yne and related compounds with ammonia and amines. Reversed anionotropic rearrangements, accompanying replacement." By E. R. H. JONES, R. N. LACEY, and P. SMITH.
- "Researches on acetylenic compounds. Part VIII. Miscellaneous addition reactions of ethynyl ketones." By K. BOWDEN, E. A. BRAUDE, and E. R. H. JONES.
- "Researches on acetylenic compounds. Part IX. Heterocyclic compounds derived from ethynyl ketones." By K. BOWDEN and E. R. H. JONES.
- "Unsaturated lactones. Part I. (Researches on acetylenic compounds. Part X.) A new route to growth inhibitory $\alpha\beta$ -ethylenic γ - and δ -lactones." By L. J. HAYNES and E. R. H. JONES.
- "The oxidation of β -carotene in solution by oxygen." By R. F. HUNTER and R. M. KRAKENBERGER.
- "The configuration of heterocyclic compounds. Part XI. Preparation of phenoxstibines and resolution of 10-*p*-carbomethoxyphenyl-2-methylphenoxstibine." By (MISS) I. G. M. CAMPBELL.
- "The action of acidic reagents on ethylene oxide anhydro sugars. Part I. On the action of acid reagents on 2 : 3-anhydro-4 : 6-benzylidene α -methylalloside." By F. H. NEWTH, W. G. OVEREND, and L. F. WIGGINS.
- "Some observations on the ring scission of 2 : 3-anhydro-4 : 6-benzylidene α -methylmannoside with ammonia." By L. F. WIGGINS.
- "1 : 2 : 3 : 4-Tetrahydroisoquinaldinic acid." By W. SOLOMON.
- "The constitution of yeast ribonucleic acid. Part X. Further studies on the nature of the carbohydrate radicals." By G. R. BARKER, (MRS.) K. R. FARRAR, and J. M. GULLAND.
- "Acid-base catalysis in non-aqueous solvents. Part X. The isomerisation of methyl mesityl oxide oxalate in chlorobenzene solution at 99°C." By R. P. BELL and (MRS.) S. M. RYBICKA.
- "Diglycyl ethylenediamine." By T. L. COTTRELL and J. E. GILL.
- "The catechins of green tea. Part I." By A. E. BRADFIELD, (MISS) M. PENNEY, and (in part) (MISS) W. B. WRIGHT.
- "The addition of thio compounds to olefins. Part I. Reactions of thioglycollic acid, thiophenol, and isoamyl mercaptan." By J. I. CUNNEEN.
- "Synthetic antimalarials. Part XI. The effect of variation of substituents in derivatives of mono- and di-alkylpyrimidines." By R. HULL, (MISS) B. J. LOVELL, H. T. OPENSHAW, and A. R. TODD.
- "Derivatives of *perinaphthindantrione*." By R. MOUBASHER and (MRS.) A. MOSTAFA.
- "The synthesis of some arylpyridyl sulphones (arylsulphonylpyridines)." By H. BURTON and W. A. DAVY.
- "Synthetic mydriatics." By A. H. FORD-MOORE and H. R. ING.
- "The copper sulphide catalysed dimerisation of *isobutene*." By A. WASSERMANN and W. T. WELLER.
- "Note on the pro-vitamin-A activity of mutatochrome." By N. T. GRIDGEMAN, R. F. HUNTER, and N. E. WILLIAMS.
- "The rearrangement of 1-phenacyl- α -phenylethyldimethylammonium bromide." By A. CAMPBELL, A. H. HOUSTON, and J. KENYON.
- "The reaction of *p*-acetamidobenzenesulphonyl azide with pyridine." By J. N. ASHLEY, G. I. BUCHANAN, and (in part) A. P. T. EASSON.
- "Acid catalysis in the iodination of phenol. Iodination by acylhypiodites." By B. S. PAINTER and F. G. SOPER.
- "The search for chemotherapeutic amidines. Part IV. Two polyamidines." By H. J. BARBER and R. SLACK.

- "The search for chemotherapeutic amidines. Part V. Phenanthridines." By H. J. BARBER, (Miss) P. Z. GREGORY, F. W. MAJOR, R. SLACK, and A. M. WOOLMAN.
- "The search for chemotherapeutic amidines. Part VI. Pyridines." By (Miss) P. Z. GREGORY, S. J. HOLT, and R. SLACK.
- "Estimation of zinc in bronze." By V. R. M. REES.
- "Estimation of zinc in brass." By V. R. M. REES.
- "Solvent quenching of fluorescence." By E. J. BOWEN and E. COATES.
- "Researches in the phenanthridine series. Part VIII. Further investigation of trypanocidal types." By L. P. WALLS.
- "Viscosities of aqueous solutions of amino-acids with some conductivity values." By A. E. BELL and W. M. MADGIN.
- "The reduction of 1:1'-azonaphthalene and of some 4:4'-derivatives." By H. H. HODGSON and J. HABESHAW.
- "Contributions to the chemistry of pyridine. Part II. On 2-methyl-5-hydroxypyridine." By T. URBANŃSKI.
- "Contributions to the chemistry of pyridine. Part III. Condensation of 2-methyl-5-hydroxypyridine with formaldehyde in alkaline medium." By T. URBANŃSKI.
- "Contributions to the chemistry of pyridine. Part IV. Preparation of 2-methyl-3-hydroxypyridine." By T. URBANŃSKI.
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PROCEEDINGS
OF THE
CHEMICAL SOCIETY.

**Minutes of a
SCIENTIFIC MEETING**

**held jointly with the Oxford University Alembic Club at the Physical Chemistry Laboratory,
South Parks Road, Oxford, on Thursday, 6th June, 1946, at 2 p.m.**

MINUTES.

The Minutes of the Scientific Meeting held on the 16th May, 1946, were read and signed.

FORMAL ADMISSION OF FELLOWS.

The following were admitted Fellows of the Society: D. M. G. Lloyd, P. E. Sagrott, R. Williams, B. Courtney, G. O. Aspinall, N. M. Green, D. Holmes, C. J. Danby, J. A. Pegg, A. M. James, R. L. Huang, S. C. Wallwork, O. W. Jarvis, J. E. Prue, W. C. E. Higginson, K. B. Everard, J. A. Barltrop, P. R. Lewis, E. H. Cole, L. P. Ellinger, H. M. Muir, A. Robertson, S. H. Morrell, L. O. Butler, L. Dickinson, B. Somade, T. B. Swanson, E. B. J. Smith, A. E. Kaye, F. C. Storrs, H. C. Longuet-Higgins.

DISCUSSION.

The President called on Sir Robert Robinson to open the Discussion on "The Chemistry of Antibacterial Substances" and the following contributions were made:

1. "Structural Problems in the Chemistry of Antibacterial Substances," by Sir Robert Robinson, D.Sc., P.R.S.
2. "Antibacterial agents in relation to Bacterial Metabolism," by D. D. Woods, M.A., Ph.D.
3. "Some Physico-chemical aspects of Antibacterial Action," by J. M. G. Pryce, B.A., and Professor C. N. Hinshelwood, Sc.D., F.R.S.

Other contributors included Dr. E. B. Chain, Dr. D. M. Hodgkin, and Dr. H. W. Thompson.

At the conclusion of the Discussion the President thanked those who had taken part and called upon Dr. Le Fèvre who proposed a vote of thanks to the Oxford University Alembic Club for acting as hosts, which was carried with acclamation.

OFFICIAL ANNOUNCEMENTS.

EXCHANGE OF GREETINGS WITH THE DANISH CHEMICAL SOCIETY.

The following message of greeting from the President was conveyed to the Danish Chemical Society by Mr. R. P. Bell:

May, 1946.

To the President and Members of the Danish Chemical Society.

The Council of the Chemical Society at a recent meeting learned with pleasure that Mr. R. P. Bell, one of the Council members, was shortly to visit Copenhagen for the purpose of lecturing before the Danish Chemical Society.

Regarding this as a welcome sign of the renewed relations between the Chemical Societies of our two countries, the Council have asked me to convey to you, in a letter which will be borne by Mr. Bell, their most hearty greetings.

Danish chemistry has long been regarded in Britain with respect and admiration and for many years the personal relations between Danish and British chemists have been close and cordial. The interruption of these relations by the war has been not least among the many intellectual deprivations of the past years and their resumption, which we hope will now proceed with increasing vigour, is a source of deep satisfaction.

Mr. Bell brings not only our most cordial greetings but our best wishes that the Danish Chemical Society shall long continue to render its illustrious services to science.

(Signed) C. N. HINSHELWOOD.
President.

The following reply was received :

June 1946.

To the President of the Chemical Society, London.

It has been a great pleasure to us and a great honour to receive your letter delivered to us by Mr. R. P. Bell of Oxford, member of your Council.

The letter was read at our meeting on June 3rd in connection with the first lecture of Mr. Bell and was received with unanimous applause from the audience.

We find your words far too kind, and we all feel the loss we have suffered during the occupation by not being able to maintain the contact with chemists of the Anglo-American part of the world and to follow the rapid development of science in these countries during the war. We enjoy being able to re-establish the contact with our British colleagues, and thereby to receive those impulses, which are of the utmost importance for all scientific work.

We regard with admiration the spirit which has conducted Great Britain and thereby our civilization through the dark years. We are convinced that this spirit to a great extent is the result of that sense of what is essential in life taught in your illustrious universities with their old traditions.

(Signed) Y. A. CHRISTIANSON.
President.

EXTRAORDINARY GENERAL MEETING.

The following notice has been issued to all Fellows in the British Isles :

EXTRAORDINARY GENERAL MEETING.

Notice is hereby given that an Extraordinary General Meeting of The Chemical Society will be held in the Society's Rooms, Burlington House, London, W.1, on Thursday, 25th July, 1946, at 3 p.m. to confirm, under Bye-Law 8, the following proposal of Council.

"That as from 1st January, 1947, the amount of the annual subscription be increased from three pounds (£3) to three pounds ten shillings (£3 10s.) and that a corresponding increase be made in the amount of the life composition fee."

By order of the Council,
C. N. HINSELWOOD.
President.

1st July, 1946.

DEATHS.

The Council regret to announce the deaths of the following Fellows :

	Elected.	Died.
Joseph Edwin Alger Blyde	1896	May 30th, 1946.
Alexander Bruce	1902	Feb. 12th, 1946.
John Addyman Gardner	1893	May 13th, 1946.
Thomas John Greenway	1885	March 12th, 1946.
James Hart-Smith.....	1900	April 20th, 1946.
Edward Hinks	1908	May 25th, 1946.
John Ernest Inkster	1944	Jan. 4th, 1946.
John Charles Mascarenhas	1898	Jan. 22nd, 1946.
John Calvert Oxley	1917	May 16th, 1946.
Edmund Brydges Rudhall Prideaux	1922	May 8th, 1946.
Arnold Shepherdson	1932	Feb. 9th, 1946.
Edwin John Woodcock	1925	Sept. 6th, 1944.

CONGRATULATIONS.

1. Birthday Honours List.

The congratulations of the Council have been conveyed by the President to the following Fellows whose names appear in the Birthday Honours List :

K.B.E.

J. E. Lennard-Jones.

Knight Bachelor.

H. Jephcott.

C.B.E.

R. B. Bourdillon.
 W. A. Damon.
 W. E. Garner.
 R. P. Linstead.
 A Parker.
 R. N. Garrod-Thomas.

2. *50 Years of Fellowship.*

Congratulations have also been conveyed to the following Fellows who have completed 50 years of Fellowship.

	Elected.
William Goodwin (Wye)	May 7th, 1896.
John McCrae (Johannesburg)	May 7th, 1896.
Henry Fishwick Robinson (Manchester)	May 7th, 1896.
Otto Rosenheim (N.W.11)	May 7th, 1896.
Llewellyn John Davies (Cardiff)	June 18th, 1896.
Joshua Arthur Hughes (Abercarn)	June 18th, 1896.

ACKNOWLEDGMENTS.

The thanks of the Council have been conveyed to Dr. R. L. Garbutt, Miss P. Turner Jones, Mr. A. Merrick, Mr. W. B. Saville, and Dr. A. L. Stern, for gifts of the Society's publications and to Major F. A. Freeth for a gift of scientific books.

COMMITTEES, 1946—47.

The Council have conveyed their thanks to the retiring members of Committees for the services they have rendered to the Society.

The following Committees have been appointed for 1946—1947 :

Finance and General Purposes Committee.

H. J. Channon, J. W. Cook, C. J. T. Cronshaw, Sir Ian Heilbron, R. P. Linstead, W. H. Mills, F. Roffey, D. T. A. Townend, together with the Officers, the Chairman of the Publication Committee and the representative of the Joint Library Committee on the Council of the Chemical Society; the President as Chairman, Treasurer as Vice-Chairman, and the General Secretary as Secretary.

Publication Committee.

C. N. Hinshelwood, as Chairman, N. K. Adam, M. P. Applebey, W. Baker, G. M. Bennett, E. J. Bowen, J. E. Coates, J. W. Cook, E. G. Cox, H. J. Emel us, C. S. Gibson, C. R. Harington, E. L. Hirst, C. K. Ingold, D. J. G. Ives, E. R. H. Jones, J. Kenyon, F. E. King, G. A. R. Kon, F. G. Mann, T. S. Moore, R. G. W. Norrish, S. G. P. Plant, M. Polanyi, H. Raistrick, F. L. Rose, B. C. Saunders, D. W. G. Style, H. W. Thompson, together with the Officers, and the Editor as Secretary.

Research Fund Committee.

N. K. Adam, A. J. Allmand, J. E. Coates, M. G. Evans, J. M. Gulland, R. D. Haworth, C. K. Ingold, J. Read, A. R. Todd, together with the Officers; the President as Chairman, and the General Secretary as Secretary.

Publications Exchange Committee.

H. Bassett, T. A. Henry, E. R. H. Jones, G. A. R. Kon, together with H. J. Emel us (ex-officio representative of the Joint Library Committee on the Council), the Officers, and four representatives appointed by the Bureau of Abstracts, with the Librarian as Secretary.

CENTENARY CELEBRATIONS EXECUTIVE COMMITTEE.

The membership of the Executive Committee is as follows : Professor C. N. Hinshelwood (*Chairman*), Dr. M. P. Applebey, Mr. A. L. Bacharach (*Chairman of Publicity Sub-Committee*), Dr. G. M. Bennett, Dr. F. H. Carr, Mr. S. E. Carr, Professor J. W. Cook, Dr. C. J. T. Cronshaw, Mr. F. P. Dunn (*Chairman of Finance Sub-Committee*), Sir Alfred Egerton, Professor A. Findlay (*Chairman of Meetings, Entertainments and Social Functions Sub-Committee*), Professor C. S. Gibson, Professor J. M. Gulland, Sir Ian Heilbron (*Chairman of the Reception, Membership and Accommodation Sub-Committee*), Lady Heilbron (*Chairman of the Ladies Sub-Committee*), Professor D. H. Hey, Professor E. L. Hirst, Professor C. K.

Ingold, Dr. L. H. Lampitt, Dr. R. P. Linstead, Professor T. S. Moore (*Chairman of the Centenary Volume Sub-Committee*), Sir Robert Pickard, Mr. H. V. Potter, Mr. J. Davidson Pratt, Professor E. K. Rideal, Sir Robert Robertson (*Chairman of the Exhibition Sub-Committee*), Sir Robert Robinson, Dr. F. Roffey, Professor N. V. Sidgwick, Dr. J. L. Simonsen, Professor A. R. Todd, Professor W. Wardlaw, with Dr. D. C. Martin as Secretary.

LOCAL REPRESENTATIVES.

(a) Cambridge.

Dr. B. Lythgoe has been appointed to succeed Dr. F. S. Dainton, who has resigned, as Local Representative for Cambridge.

(b) Liverpool.

Mr. L. A. Haddock and Dr. W. B. Whalley have been appointed as joint Local Representatives to succeed Dr. A. McGookin who has resigned as Local Representative for Liverpool.

(c) Newcastle and Durham.

Dr. Wesley Cocker has been appointed to succeed Dr. G. H. Christie, who has resigned, as Local Representative for Newcastle and Durham.

The thanks of Council have been sent to the retiring Local Representatives.

RESEARCH FUND.

The Council have made the following grants from the Research Fund :

Exeter, University College.

	£	s.	d.
K. Schofield, " Investigation of the chemistry of cinnoline derivatives "	30	0	0

Leeds, University.

A. Audsley, " Relationships between structure and dielectric solvent effect "	10	0	0
J. Gaunt, " Polar and steric factors in the catalysed and uncatalysed reactions of isocyanates with -OH compounds "	10	0	0
H. B. Hopkins, " The cyanohydrin equilibrium with halogenobenzaldehydes "	10	0	0
R. W. Saville, " The effect of substitution on condensation reactions between acid derivatives and aromatic compounds "	10	0	0

London, Guy's Hospital Medical School.

W. L. Gent, " The electric dipole moments of some heterocyclic compounds "	20	0	0
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London, Queen Mary College.

C. M. French, " Preparation and physical properties of hydrides and fluorides of nitrogen "...	15	0	0
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London, Royal Holloway College, Englefield Green.

M. M. T. Plant, " Investigations on the polysaccharide material obtainable from the Green Alga, Ulva "	10	0	0
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Bangor, University College of North Wales.

I. Dostrovsky, " Steric factors in substitution reactions "	20	0	0
J. Graham, " Steric factors in the reactions of carboxylic compounds "	20	0	0

UNIVERSITY OF SHEFFIELD.

Professor R. Whytlaw-Gray represented the Society at the Installation of the Right Honourable the Earl of Harewood as Chancellor of the University of Sheffield on the 25th June, 1946.

LIBRARY.

From July 16th until September 30th the Library will open daily from 10 a.m. to 5 p.m., except during the fortnight August 5th to August 17th inclusive, when it will be entirely closed for revision and cleaning.

BRITISH STANDARD SPECIFICATIONS.

The following drafts have been received and Fellows wishing to make technical comment are requested to do so to the British Standards Institution, 28, Victoria Street, Westminster, S.W.1, by August 7th, 1946, in the case of

(a) CH(C) 4204. Second Draft B.S. for Micro-Chemical Carbon and Hydrogen Combustion Trains,

and by September 2nd, 1946, in the case of

(b) CH(DAC) 5317. Draft B.S. for coated tinfoil for use in the dairying industry.

ELECTION OF NEW FELLOWS.

The following 63 candidates were elected Fellows of the Chemical Society on June 13th, 1946 :

Alan Stuart Anderson.	Roy Haynes.	Thomas George Saunders.
Bernard Lewis Archer.	Elliott Garfield Jackson.	Rudolf Schulof.
Charles Thomas Ashton.	Wilfred Thomas Jarrett.	Leslie George Dixon Sheldrake.
Nandor Bernstein.	Mukarram Hussain Khundkar.	Mervyn William Herbert
Arnold Blumann.	Donald John Robert Laurence.	Sheppard.
John Spiers Bone.	Eric London.	Roy Henry Smith.
Raymond Bradford Bradstreet.	Harry Marchanton Lowe.	Howard Braithwaite Stent.
Eric Arthur Burfoot.	John Macmillan.	Harold Jacob Stern.
Norman Burrows.	Samuel Colin McNeil.	John Albert Stock.
Reginald Charles Clark.	Henry Martin.	Cyril Gordon Sumner.
David Walton Clayton.	Alfred Mead.	Hana Tausigova.
George Cleaver.	Frank Isaac Morley.	Peter James Thurman.
Gerald Hugh Cookson.	Robert Ian Morrison.	Edward George Tomich.
Cyril Walter Crane.	Bhaskara Rama Murti Pola-	Roland Cesar Voss.
William James Dunning.	pragada Murti.	Joseph Walker.
John Arthur Eggleston.	Johan Ernst Nyrop.	Henry George White.
Edmund Frankel.	William David Ollis.	John Strachan Wilkie.
Eric Bertram Fuller.	John Mervyn Osbond.	Herbert James Willavoys.
Sailaja Prasad Ghosh.	Brian Roy West Pinsent.	Donald Charles Williams.
Cecil Godfrey.	Reginald Hesketh Prince.	David Scott Wilson.
Cecil Edward Gregory.	Madhao Bhalchandra Sahasra-	Anthony Arthur Woodham.
Douglas Graham Harvey.	budhe.	John Wright.

LIST OF APPLICATIONS FOR FELLOWSHIP

(Fellows wishing to lodge objections to the election of these candidates should communicate with the Honorary Secretaries before July 31st, 1946. Such objections will be treated as confidential. The forms of application are displayed in the Library.)

- Bartley, William Barrow**, Hons.Nat.Sci. (Oxon). British. 55, Longcroft Lane, Welwyn Garden City. Chief Engineer, Marconi Instruments Ltd., St. Albans. Signed by : R. E. Slade, H. W. Thompson, W. G. Adam.
- Barton, Maxwell Craig**, Inter.B.Sc. (Lond.). British. 15, Green Lane, Liverpool, 13. Teacher. Signed by : R. J. S. Beer, W. B. Whalley, A. McGookin.
- *Baxter, Richard Allen**, M.Sc. (Manc.). British. Chemistry Department, Royal Technical College, Glasgow, C. 1. Research Assistant. Signed by : F. S. Spring, J. C. Woods, G. T. Newbold.
- *Bernstein, Michael**, B.Sc. (Lond.). British. 28, Boundary Road, Eastcote, Pinner. Research Student. Signed by : Gwyn Williams, P. C. Crofts, V. Gold.
- Bunton, Clifford Allen**, B.Sc. and Ph.D. (Lond.). British. The Maisonette, The Red House, Effingham. Assistant Lecturer in Chemistry. Signed by : R. I. Reed, S. Sugden, C. K. Ingold.
- *Clark, Stanley Bartlett**. British. 30, Grosvenor Street, Bury. Analytical and Research Chemist. Signed by : J. A. Beardall, Harry Brindle, A. E. Gillam.
- *Davies, Isadore**, B.Sc.Hons. (Lond.). British. S.Q. 36|4, c|o Anglo-Iranian Oil Co., Ltd., Abadan. Assistant Chemist, Abadan Refinery. Signed by : C. K. Ingold, H. G. Poole, E. D. Hughes.
- *Dickson, George Thomson**, B.Sc. (Glas). British. 43, Earlbank Avenue, Glasgow, W. 4. Research Student. Signed by : James Bell, J. W. Cook, James D. Loudon.
- *Eisler, Bedrich**. Czechoslovak. Exeter College, Oxford. Student reading Chemistry Honours at Oxford. Signed by : Ronald P. Bell, J. H. Wolfenden, E. J. Bowen.
- Fowler, Kenneth Edward**, A.R.I.C. British. 16, York Avenue, Ashley Down, Bristol, 7. Research Chemist. Signed by : Arthur Marsden, Eric J. Holland, Frank H. C. Bull.
- *Hanchard, Jeanne Olive**, B.Sc.Hons. (Lond.). British. 27, Aldbourne Avenue, Earley, nr. Reading. Science teacher. Signed by : E. E. Turner, Margaret M. Jamison, D. M. Hall.
- Hawkins, Edwin George Edward**, B.Sc.Hons. and Ph.D. (Bristol), A.R.I.C. British. 8, Pine Avenue, Bebington. Research Chemist. Signed by : E. L. Hirst, J. K. N. Jones, W. E. Garner.
- Higgins, Dennis John**, B.Sc. (Lond.), A.R.I.C., A.R.C.S. British. 46, Mount Ephraim Lane, S.W.16. Captain, Royal Engineers. Research Chemist in Army Chemical Laboratory. Signed by : E. R. H. Jones, L. N. Owen, I. K. M. Robson.

- Holleyman, Wilfred Frank.** British. Mill Hill Cottage, S.W. 13. Student. *Signed by:* J. Kenyon, J. W. Smith, A. Houston.
- Hutcheson, Wilfrid George, M.P.S.** British. 66, The Avenue, Southampton. Pharmacist. *Signed by:* H. W. B. Reed, S. H. Harper, M. Elliott.
- *Hey, Ralph, B.Sc.Hons.** British. 10, Eustace Avenue, Balkwell, North Shields. Research Student. *Signed by:* T. D. Smith, R. Bell, W. Marshall, M. Michelson.
- Johnson, Paley, M.A. and Ph.D.(Cantab.), I.C.I. Fellow of Cambridge University.** British. Department of Colloid Science, The University, Cambridge. Research Worker. *Signed by:* E. K. Rideal, G. B. B. M. Sutherland, E. I. McDougall.
- Johnston, Thomas Young, B.Sc.Hons. (Glas.).** British. 3, Bellevue Road, Rothesay, Bute. Research Chemist. *Signed by:* J. W. Cook, John Robertson, Archibald G. Clement.
- Jones, Frederick Arthur, B.Sc. (Lond.), F.R.I.C.** British. 12, Water Orton Road, Castle Bromwich. Research Manager. *Signed by:* E. M. Joiner, Garfield Thomas, C. E. Kendall, R. S. Potter.
- Jones, Hugh Trefor, M.Sc. (Wales), A.R.I.C.** British. 29, Sandhill Oval, Alwoodley, Leeds. Advisory Chemist. *Signed by:* Norman M. Comber, W. N. Townsend, W. A. Wightman.
- *Jones, Patrick Gadsden, B.Sc.Hons. (Bristol).** British. Y.M.C.A. Hostel, Colston Street, Bristol. Research Student. *Signed by:* C. E. H. Bawn, T. Malkin, W. Baker.
- Lal, Avadh Behari, M.Sc. (Patna).** Indian. Chemistry Department, Queen Mary College, Mile End Road, E. 1. Research Student. *Signed by:* J. R. Partington, V. A. Petrow, J. Saper.
- Langston, Robert Pembruge, B.Sc.Hons. (Lond.), A.R.I.C.** British. 123, Central Avenue, Hounslow. Development Chemist. *Signed by:* J. R. Gray, H. C. Hitchcock, C. Montague Smith.
- Lee, Jeffrey, B.Sc.Hons. (Manc.).** British. 33, Stanley Street, Nelson. Research Chemist. *Signed by:* G. Norman Burkhardt, A. E. Gillam, Colin Campbell, Fred Fairbrother.
- McGrath, Louis Bernard, B.Sc. (Lond.), A.R.I.C.** British. 75, Eldon Street, St. Helens. Experimental Assistant, Ministry of Supply. *Signed by:* J. F. Jackson, V. C. E. Burnop, M. J. Thornton.
- McIntosh, Angus Fraser, M.P.S.** British. Grianan, Perth Road, Scone. Pharmacist with Messrs. Thomas Harley Ltd., 55, South Methuen Street, Perth. *Signed by:* Rupert Woolby Brooke, John C. Smith, R. R. Bennett.
- Maclean, Alexander Cockburn, B.Sc.Hons. (Glas.), A.R.T.C.** British. 324, Wedderlea Drive, Glasgow, S.W. 2. Research Student at the Royal Technical College, Glasgow. *Signed by:* W. M. Cumming, F. Rumford, I. Vance Hopper.
- Macpherson, John Farqueharson.** British. 56, Lonsdale Road, Oxford, Student of Chemistry at Oxford University. *Signed by:* Ronald P. Bell, H. M. Powell, F. M. Brewer.
- *Morris, William, B.Sc. (Edin.).** British. Norwood, Stricken Road, Fraserburgh. Analytical Chemist. *Signed by:* John P. Allchin, A. Davies, P. H. Freestone.
- Mugdan, Martin, Ph.D.** German. 42, Mount Ararat Road, Richmond. Research Chemist with the Distillers Co., Ltd. *Signed by:* Herbert M. Stanley, J. G. Maltby, G. Minkoff.
- Neale, Sidney Maurice, M.Sc. (L'pool), D.Sc. (Manc.).** British. College of Technology, Manchester. University Lecturer in Applied Chemistry. *Signed by:* A. F. H. Ward, R. F. Garwood, G. Baddeley.
- Norman, Peter James, B.Sc. (Lond.), A.R.C.S., F.R.I.C.** British. 23, Chelwood Gardens, Richmond. Research Chemist, Messrs. J. Lyons & Co., Ltd. Cadby Hall, W. 14. *Signed by:* R. W. Money, L. F. Barron, Arthur N. Ainsworth.
- Norris, William Henry Hobbs, B.A.Hons. (Cantab.), B.Sc.Hons. (Lond.), F.R.I.C.** British. Hurst Lee, Glossop. Chemical Manufacturer and Contractor. *Signed by:* A. E. Gillam, John K. Wood, A. F. H. Ward, T. K. Walker, Norman Blakebrough, T. C. Warrington.
- Nunn, John Richard, M.Sc. (Cape Town).** British. Chemistry Department, University of Cape Town, Rondebosch, South Africa. Junior Lecturer. *Signed by:* E. Newbery, W. Pugh, W. S. Rapson.
- *Ottewill, Ronald Harry, Inter.B.Sc. (Lond.).** British. 39, Crosslands Avenue, Norwood Green, Southall. Student, Queen Mary College. *Signed by:* J. R. Partington, C. M. French, H. D. K. Drew.
- *Pender, Iain Allan Burnett, B.Sc.Hons. (Glas.), A.R.I.C.** British. 253, Shrewsbury Road, E. 7. Production Chemist with Glaxo Laboratories Ltd. *Signed by:* E. Lester Smith, Edward W. Pates, James E. Page.
- *Philip, Robert, B.Sc.Hons. and Ph.D. (Glas.).** British. 24, Dowanside Road, Glasgow, W. 2. Assistant in Chemistry, The University, Glasgow. *Signed by:* James D. Loudon, James Bell, J. W. Cook.
- Rees, Henry George, B.Sc. and Ph.D. (Lond.), A.R.C.S., D.I.C., F.R.I.C.** British. 62, The Avenue, Hatch End. Research Biochemist, Oxo Ltd. *Signed by:* G. Spall, Eric C. Wood, L. C. Dutton.
- *Riley, Douglas Willie, B.Sc.Hons. (Lond.).** British. 128, Southfield Road, Little Horton, Bradford. Research Student. *Signed by:* G. Skirrow, R. M. Barrer, H. I. Stonehill.
- *Roper, Joseph Alan, B.Sc. (Sheffield).** British. 17, Neale Street, Long Eaton, Nottingham. Research Assistant to Medical Research Council. *Signed by:* Brynmor Jones, J. C. Speakman, E. Gertrude Turner, T. B. Smith.
- *Sheehan, Sean, B.E. and B.Sc. (N.U.I.).** Irish. 4, Tivoli Gardens, Tivoli, Cork. Assistant Chemical Engineer, Cement Ltd., Drogheda. *Signed by:* Joseph Reilly, John C. Aherne, Michael A. Fielding.
- *Shipley, Frederick Walter, B.Sc.Hons. and Ph.D. (Lond.).** British. 199, Hampden Way, Southgate, N. 14. Organic Research Chemist, British Rubber Producers' Research Association. *Signed by:* G. F. Bloomfield, E. H. Farmer, Ralph F. Naylor.
- Short, William Stanley, B.Sc.Hons. (Dun.).** British. School House, Seaton Burn, Newcastle-on-Tyne. Research Student at King's College, Durham University. *Signed by:* G. R. Clemo, Wesley Cocker, Richard Raper.
- Smart, Jack, B.Sc.Hons. (Birm.).** British. 84, Brays Road, Sheldon, Birmingham, 26. Research Chemist. *Signed by:* L. L. Bircumshaw, M. Stacey, S. R. Carter.
- *Smith, John Alec Sydney.** British. 68, Bobbers Mill Road, Nottingham. Student at Lincoln College, Oxford. *Signed by:* N. V. Sidgwick, L. A. Mounter, F. M. Brewer.
- *Stephan, Thea Rodna, M.Sc. (Sydney).** British. 20, Addiscombe Grove, East Croydon. Assistant Lecturer, Imperial College. *Signed by:* C. H. Bamford, M. J. S. Dewar, D. M. Newitt.
- Stockdale, David, M.A., Ph.D., and Sc.D. (Cantab.), A.R.I.C.** British. 25, Hills Avenue, Cambridge. University Lecturer in Chemistry. *Signed by:* H. J. Emeléus, F. G. Mann, H. McCombie.

- Tabutant, Monique George Louise**, B.Sc. (Cape Town). Belgian. Chemistry Department, University of Cape Town, Rondebosch, South Africa. *Signed by* : E. Newbery, W. Pugh, W. S. Rapson.
- Taylor, Alfred James**, B.Sc.Hons. (Lond.). British. 50, Blyburgate, Beccles. Research Student, University College, Nottingham. *Signed by* : J. Masson Gulland, D. O. Jordan, John C. Roberts.
- Thompson, Ronald John**. British. 20, Meadowcroft Avenue, Cleveleys, nr. Blackpool. Serving in the Army. *Signed by* : Joseph H. Roberts, R. Leslie Collett, H. J. T. Ellingham.
- Tyler, Douglas Leslie**, B.Sc. (Lond.). British. 26, Wood Lane, Hucknall, Notts. Assistant Chemist. *Signed by* : F. R. Mumford, R. W. Hale, R. Banks, R. N. Coleman.
- Valton, Paul Alexander**, B.Sc. (Lond.), A.R.I.C. British. Sandusky, Berkley Road, Frome. Technical Manager of Road Reconstruction (1934) Ltd., also General Manager of their Somerset and Gloucester Group of Quarries. *Signed by* : J. Davidson Pratt, Charles Walker Mobberley, John C. Warr.
- Whelehan, John Kevin**. Licentiate, Pharmaceutical Society of Ireland. Irish. 38, Earl Street, Mullingar, Ireland. Pharmaceutical Chemist. *Signed by* : George C. Hewson, A. G. G. Leonard, T. S. Wheeler.
- Wilson, James Matchett**, M.Sc. (Q.U.B.). British. c/o 19, Yarborough Road, Southsea. Lecturer in Chemistry, The Municipal College, Portsmouth. *Signed by* : D. M. Edwards, C. G. Lyon, C. M. Bere.
- Yates, Christopher Cavill**, A.R.I.C. British. 4, South Hill Mansion, South Hill Park, N.W. 3. Works Chemist. *Signed by* : A. W. E. Downer, S. G. Kendrick, E. de Barry Barnett.

UNDER SPECIAL PROVISION APPERTAINING TO CANDIDATES RESIDENT ABROAD.

- Frank, Hans Richard**, B.A. (Swarthmore). American. Department of Chemistry, University of Rochester, Rochester 3, New York. Graduate Fellow. *Signed by* : Leslie G. S. Brooker.
- Morrell, Clarence Allison**, M.A. (Toronto), Ph.D. (Harvard). Canadian. Food and Drug Laboratories, Department of National Health and Welfare, Ottawa, Ontario. Assistant Chief Dominion Analyst. *Signed by* : A. Linton Davidson.
- Steele, Frank John**, Ph.G. (Pittsburgh), LL.B. (La Salle). American. Greenwich Hospital, Greenwich, Conn., U.S.A. Chief Pharmacist. *Signed by* : H. B. Vickery.

* Reduced annual subscription.

PAPERS RECEIVED

List of papers received between May 13th and June 13th, 1946. (This list does not include the titles of papers which have been read at a Scientific Meeting or which have appeared in the *Journal*.)

- "Strychnine and brucine. Part XLVI. The preparation of neostrychnine and neobrucine." By R. N. CHAKRAVARTI and SIR ROBERT ROBINSON.
- "The synthesis of 6-nitroindene." By R. D. HAWORTH and D. WOODCOCK.
- "Coordinate links formed by bonding electrons: a suggestion regarding the structure of diborane." By A. D. WALSH.
- "A new synthesis of oxazoles and iminazoles including its application to the preparation of oxazole." By J. W. CORNFORTH and (MRS.) R. H. CORNFORTH.
- "Reduction by dissolving metals. Part IV." By A. J. BIRCH.
- "Stereo-effects and van der Waals complexes." By E. J. BOWEN and E. COATES.
- "The rearrangement of 2-benzenesulphenamidothiazoles. Part I. Thiazole compounds not substituted in position 4." By E. HOGGARTH.
- "The rearrangement of 2-benzenesulphenamidothiazoles. Part II. Thiazole compounds substituted in position 4." By E. HOGGARTH.
- "The place of Yttrium and the application of ferricyanide precipitation in the rare-earth group. The purification of erbium." By J. K. MARSH.
- "Synthesis of the monoethyl ethers of kaempferol and constitution of rhamnocitrin." By K. V. RAO and T. R. SESHADRI.
- "The nitration of some derivatives of eugenol." By G. R. CLEMO and J. H. TURNBULL.
- "The sulphonation of some derivatives of eugenol." By G. R. CLEMO and J. H. TURNBULL.
- "The addition of thio compounds to olefins. Part II. Reactions of thioacetic, monochloro-, dichloro-, and trichloro-thioacetic acids." By J. I. CUNNEEN.
- "Note. Preparation of methylphloroglucinol." By E. A. COULSON and R. G. POWELL.
- "The crystal and molecular structure of certain dicarboxylic acids. Part I. Oxalic acid dihydrate." By J. D. DUNITZ and J. M. ROBERTSON.
- "The crystal and molecular structure of certain dicarboxylic acids. Part II. Acetylene dicarboxylic acid dihydrate." By J. D. DUNITZ and J. M. ROBERTSON.
- "Epimeric alcohols of the cyclohexane series. Part VI. The optically active 3-methylcyclohexanols." By A. K. MACBETH and J. A. MILLS.
- "Synthetic antimalarials. Part XII. Some 1:3:5-triazine derivatives." By F. H. S. CURD, J. K. LANDQUIST, and F. L. ROSE.

- "Synthetic antimalarials. Part XIII. Some *n*-dialkylaminoalkylamidines." By F. H. S. CURD and C. G. RAISON.
- "The synthesis of antimalarial compounds related to niquidine. Part III. Alternative synthesis of dihydro-*x*-niquidine." By T. S. WORK.
- "The photochemical dimerisation of acenaphthylene." By E. J. BOWEN and J. D. F. MARCH.
- "The replacement of the diazonium by the nitro-group. Part II. Some modifications of procedure, and extension of the method to nitronaphthylamines, benzidine, and 3 : 3'-dichlorobenzidine." By H. H. HODGSON and E. R. WARD.
- "Investigations on the influence of chemical constitution upon toxicity. Part I. Compounds related to 'Doryl'." By R. D. HAWORTH, A. H. LAMBERTON, and D. WOODCOCK.
- "Investigations on the influence of chemical constitution upon toxicity. Part II. Compounds related to 'Prostigmine'." By R. D. HAWORTH, A. H. LAMBERTON, and D. WOODCOCK.
- "Investigations on the influence of chemical constitution upon toxicity. Part III. Compounds related to 'Miotine'." By R. E. DAVIES, R. D. HAWORTH, B. JONES, and A. H. LAMBERTON.
- "An interpretation of the Sandmeyer reaction. Part IX. The behaviour of diazotised 2 : 4 : 6-trichloro- and 2 : 4 : 6-tribromo-aniline towards the Sandmeyer reagent, and the preparation of 1 : 3 : 5-trichloro- and 1 : 3 : 5-tribromo-benzene." By H. H. HODGSON and A. P. MAHADEVAN.
- "The constitution of yeast ribonucleic acid. Part XI. Synthesis of uridine-2-phosphate." By J. M. GULLAND and H. SMITH.
- "Phenylpropionic acids. Part I. The dimerisation of *o*-methoxyphenylpropionic acid." By F. G. BADDAR.
- "Synthetic mydriatics. α -Chlorodiphenylacetyl chloride as a reagent for the preparation of benzilic esters of tertiary amino-alcohols." By F. E. KING and D. HOLMES.
- "The structure of molecular compounds. Part III. Crystal structure of addition complexes of quinol with certain volatile compounds." By D. E. PALIN and H. M. POWELL.

PROCEEDINGS
OF THE
CHEMICAL SOCIETY.

OFFICIAL ANNOUNCEMENTS

Minutes of an
EXTRAORDINARY GENERAL MEETING

held in Burlington House, Piccadilly, W. 1, on Thursday, July 25th, 1946, at 3 p.m.

The PRESIDENT, Professor C. N. HINSHELWOOD, Sc.D., F.R.S., was in the Chair.

FORMAL ADMISSION OF FELLOWS.

Professor Endre Berner was admitted a Fellow of the Society.

ANNUAL SUBSCRIPTION.

The PRESIDENT called upon the Honorary Secretary to read the following notice convening the meeting :

EXTRAORDINARY GENERAL MEETING.

Notice is hereby given that an Extraordinary General Meeting of the Chemical Society will be held in the Society's Rooms, Burlington House, London, W. 1, on Thursday, July 25th, 1946, at 3 p.m., to confirm under Bye-Law 8, the following proposal of Council :

" That as from January 1st, 1947, the amount of the Annual Subscription be increased from three pounds (£3) to three pounds ten shillings (£3 10s.) and that a corresponding increase be made in the amount of the life composition fee."

By order of the Council,
C. N. HINSHELWOOD,
President.

July 1st, 1946.

The TREASURER then made a statement regarding the financial position of the Society and proposed that the annual subscription be increased from £3 to £3 10s. and that a corresponding increase be made in the amount of the life composition fee. Dr. C. W. Shoppee seconded the proposal and a vote was taken.

The PRESIDENT declared the proposal carried and the meeting closed.

DEATHS.

The Council regret to announce the deaths of the following Fellows :

	Elected.	Died.
Joshua Arthur Hughes (Abercarn)	June 18th, 1896.	June 24th, 1945.
Archibald Carswell Melville (Ontario)	May 20th, 1943.	May 10th, 1946.
Ferdinand Roques (Paris)	Feb. 21th, 1918.	Jan. 1945.
Antonin Simek (Czechoslovakia).....	June 16th, 1921.	1942.
Robert de Jersey Fleming Struthers (Oxford)	May 5th, 1904.	July 18th, 1944.
Barry Arthur Mauger Windsor (Worthing) (Killed on active service)	Dec. 3rd, 1936.	Oct. 1941.

CONGRATULATIONS.

The congratulations of the Council have been conveyed by the President to the following Fellows whose names appear in the Birthday Honours List (Second Part) :

O.B.E.
Edward Christopher Baughan.
Aquila Forster.
William Harold Juggins Vernon.

ACKNOWLEDGMENT.

The thanks of the Council have been conveyed to Dr. David Hooper for gifts of the Society's publications.

VINGTIÈME CONGRÈS DE CHIMIE INDUSTRIELLE DE LA SOCIÉTÉ DE CHIMIE INDUSTRIELLE.

Major F. A. Freeth, F.R.S., has accepted the Council's invitation to be the Society's Representative at the above Congress.

INTERNATIONAL UNION OF CHEMISTRY.

Committee for the Reform of the Nomenclature of Organic Chemistry.

Professor C. S. Gibson, F.R.S., has accepted the Council's invitation to represent the Society on the above Committee.

ELECTION OF NEW FELLOWS.

The following 66 candidates were elected Fellows of the Chemical Society on July 9th, 1946 :

John Gerrard Anderson.	Alan Grieve.	Bert Charles Newbury.
Moise Haim Avramoff.	John Frederick Grove.	Guy Geoffrey Frederick Newton.
Harold Cecil Bailey.	Jesse Grundy.	Peter Frederick Onyon.
Betty Doreen Bending.	Edward Richard Herz.	Edward Keith Pierpoint.
Madhav Balaji Bhagvat.	Arthur Clement Hetherington.	Richard Gilbert Poppy.
Alfred Arnold Boucher.	William Samuel Hodges.	Mrs. Emily Jean Raynor.
Basil Butterworth.	Alfred Harold Howland.	John Alexander Ross.
Colin Campbell.	Eric Millman Hunt.	Richard Penn Royer.
Alexander William Cherry.	Alistair Frederick McKenzie	John Trethowan Rundell.
David Lionel Cohen.	Jackson.	Pallassena Krishna Seshan.
Frank William Cornish.	Anthony Trafford James.	Clifford George Silcocks.
Ralph Hugh Alfred Crawley.	John Ker Johannesson.	Thomas Hardy Simpson.
Frank Cutshaw Croxtan.	Herbert Edwin Jones.	Raymond Philippe Alexandre
Fernando Orozco Diaz.	David Harry Kohn.	Sneed.
Michael Isidore Dunn.	Archibald Ernest Lain.	Walter Edward Stein.
Basil Edward Evans.	Wilbur Arthur Lazier.	William Henry Stevens.
Roderick Falconer.	Christina Thomson Lewin.	Michael Patrick Stock-Dunne.
Alan Charles Farthing.	Philip Arthur Lincoln.	Eric Greve Strom.
James Sneddon Forsyth.	Alan Mackinnon.	Philip Beckett Turner.
Nehemiah Francis.	Clive William Coker Marler.	George Arthur Watson.
Gordon Douglas Gemmell.	Daniel Donald Moir.	Frank Wesley.
Geoffrey Alan Gilbert.	Ernest Devereux Morris.	William Frank Williams.
Siegfried Gottfried.	Reino Olavi Nasanen.	

LIST OF APPLICATIONS FOR FELLOWSHIP

(*Fellows wishing to lodge objections to the election of these candidates should communicate with the Honorary Secretaries before August 31st, 1946. Such objections will be treated as confidential. The forms of application are displayed in the Library.*)

- Adams, Harold**, A.R.I.C. British. Rolleston, 71, Moor Lane, Wilmslow. Research Chemist. *Signed by* : Chas. B. Featherstone, R. Leslie Collett, H. J. T. Ellingham.
- Azzam, Ahmed Mohamed**, B.Sc.Hons. (Cairo). Egyptian. 157, Queen's Drive, Finsbury Park, N. 4. Student at the Royal College of Science. *Signed by* : J. F. Herringshaw, Ernest A. Braude, J. O'Mara-Bockris.
- Bellamy, Harold**, M.P.S. British. 405, Main Road, Sheffield, 9. British. Manager of Pharmacies. *Signed by* : J. B. Stocks, M. Taylor, S. Burnley.
- Cameron, Archie Hector**, B.Sc. (Glas.), A.R.T.C., F.R.I.C. British. 24, Bryans Close Road, Calne. Chemist. *Signed by* : Osman Jones, L. E. Campbell, C. L. Hinton.
- Chaventon, Cyril**. British. 28, Northwick Circle, Kenton, Harrow. Production Director and Works Manager of Evan Williams Company, Ltd., Aintree Road, Perivale, Middlesex. *Signed by* : M. Briscoe, W. M. Seaber, R. A. Rabnott.
- Cordes, Albert**, M.P.S. British. 62, Overhill Drive, Withdean, Brighton, 6. Production Manager with the Anglo-American Pharmaceutical Co., Ltd., Croydon. *Signed by* : A. E. Corker, A. J. Kelly, H. C. Bailey, Arthur Mortimer.
- Corner, Mary**, B.Sc.Hons. (Lond.), F.R.I.C. British. British Leather Manufacturers Research Association, c/o Royal Institute of Chemistry, 30, Russell Square, W.C. 1. Chemist. *Signed by* : R. G. Wallis, M. P. Balfe, R. Leslie Collett.
- Cranstoun, Hamish MacLaren**, B.Sc. (Glas.). British. c/o Hammond, 66, Alma Avenue, Hornchurch. Chemist with May and Baker, Ltd., Dagenham. *Signed by* : Kenneth R. Rees, C. R. J. Ruthven, Hamish B. Cameron.
- Davies, Goronwy**, B.Sc.Hons. (Wales). British. Sentosa, Mount Ambrose, Redruth. Deputy Manager, Imperial Chemical Industries, Ltd., Explosives Division. *Signed by* : J. Weir, J. W. Tait, C. R. N. Strouts.

- Edwards, Donald**, B.Sc.Hons. (Lond.), A.R.I.C. British. 43, Argyll Street, Kettering. Technical College Chemistry Master. *Signed by* : D. O. Jordan, H. H. Barber, John C. Roberts.
- ***Fordham, William Douglas**, British. Cliffdale, Undercliff Gardens, Leigh-on-Sea. Production Control Chemist. *Signed by* : R. L. Blackmore, F. J. Green, Ralph E. Bowman.
- Gibb, William**, B.Sc.Hons. (Glas.), A.R.T.C., A.R.I.C. British. 48 Vardar Avenue, Clarkston. Research Student at the Royal Technical College, Glasgow. *Signed by* : Henry G. A. Anderson, W. M. Cumming, F. Rumford.
- Godier, Alec Leonard**, B.Sc. (Lond.), A.R.I.C. British. 9, Warner Road, Hornsey, N. 8. Chemist. *Signed by* : A. J. Cross, E. J. Chappel, K. J. Verrill.
- Gray, Peter Edward**, B.Sc. (Lond.), A.R.I.C. British. c/o Research Laboratory, Messrs. Tate & Lyle, Ltd., Plaistow Wharf, E. 16. Research Chemist. *Signed by* : Denis R. Dickinson, J. Barrett, Lawrence S. Bull.
- Gregory, Raeburn Arthur**, B.Sc. and Ph.D. (Lond.), A.R.I.C. British. 19, Shakespeare Road, Widnes. Chemical Plant Manager. *Signed by* : B. Raistrick, Geo. King, J. G. Clarke.
- ***Grieve, Alan**, Inter.B.Sc. (Lond.). British. 20, Norbury Avenue, Thornton Heath. Student at University College, Cardiff. *Signed by* : Ian H. Slicer, N. M. Cullinane, S. J. Chard.
- Heald, John**, B.Sc.Hons. (Leeds). British. 2, Easton Drive, Cheadle. Works Chemist. *Signed by* : J. Plant, C. G. Childs, D. S. Stephens.
- Hodge, Donald Gordon**, B.Sc. (Lond.). British. 10, Eastella Drive, Anlaby Road, Hull. Assistant Works Chemist. *Signed by* : W. Elisabeth Adams, R. L. Wickens, Sydney H. Long.
- John, George**, M.P.S. British. 8, MacDonald Road, Friern Barnet, N. 11. Chief Pharmacist to Bayer Products Ltd., Africa House, Kingsway, W.C. 2. *Signed by* : H. Robinson, D. C. Garratt, N. R. Jones.
- Kemp, Peter Hayden**, Inter.B.Sc. (Lond.). British. 12, Bethune Avenue, N. 11. Assistant Experimental Officer at the Building Research Station (D.S.I.R.), Garston, Watford. *Signed by* : F. M. Lea, H. Dorner, M. J. Eichner.
- Lisowicz, Simon**, I.C.R. (Rouen). Polish. British Oxygen Co., Ltd., Research and Development Department, Morden Factory Estate, S.W. 19. Technical Abstractor. *Signed by* : I. Greenfield, Bernard Bann, Norman E. Williams.
- Lonsdale, Kathleen**, D.Sc. (Lond.), F.R.S. British. 121 Station Road, West Drayton. Research Worker, X-Ray Crystallography at the Royal Institution, Albemarle Street, W. 1. *Signed by* : Robert Robertson, Henry H. Dale, C. K. Ingold.
- Marshall, William Clark**, B.Sc.Hons. (Lond.). British. 20, The Avenue, St. Margarets. Intelligence Officer and Librarian, The British Oxygen Co., Ltd., Research and Development Department. *Signed by* : J. W. Coates, I. Greenfield, Bernard Bann.
- ***Mills, Colin Frederick**, B.Sc.Hons. (Reading). English. The Knapps, Ridgeway, Long Ashton, Bristol. Assistant Biochemist, Plant Nutrition Research, University of Bristol, Agricultural and Horticultural Research Station, Long Ashton. *Signed by* : L. F. Burroughs, D. Woodcock, H. Martin.
- ***Morris, Arthur Leslie**, B.Sc.Hons. (Lond.). British. Clive, Bucknalls Lane, Garston, Watford. Research Chemist, British Rubber Producers Research Association. *Signed by* : H. P. Koch, Geoffrey Gee, L. Bateman.
- Neate, Percy John**. British. 49, Frognal, N.W. 3. *Signed by* : E. L. Kennaway, G. A. R. Kon, C. W. Shoppee.
- ***Neville, Hugh Henry**, M.A. and B.Sc. (Aberd.). British. 29, Court Way, Twickenham. Student. *Signed by* : H. W. Melville, T. H. Reade, J. M. C. Thompson.
- Peppiatt, Edward George**, B.Sc.Hons. (Lond.), A.R.C.S., A.R.I.C. British. 10, Bridgefield Avenue, Wilmslow. Chemist. *Signed by* : J. A. Beardall, P. R. Carter, E. Booth.
- Piper, Harold**. British. 30, Scott Lane West, Riddlesden, Keighley. Laboratory Manager, Keighley Laboratories, Ltd. *Signed by* : J. Rushworth, L. M. Stockdale, G. Skirrow.
- ***Powell, Richard Graham**, B.A. (Oxon.). British. 3, Dryburgh Road, Putney, S.W. 15. Junior Scientific Officer, Chemical Research Laboratory, Teddington. *Signed by* : E. A. Coulson, R. P. Linstead, Stanley L. Thomas.
- Rees, Henry George**, B.Sc. and Ph.D. (Lond.), A.R.C.S., D.I.C., F.R.I.C. British. Oxo Laboratories, 16, Southwark Bridge Road, S.E. 1. Research Biochemist. *Signed by* : D. W. Kent-Jones, Eric C. Wood, L. C. Dutton, A. J. Amos.
- ***Rose, George Alan**, B.A. (Oxon.). British. 52, Uphill Road, Mill Hill, N.W. 7. Assistant Chemist on Medical Unit, University College Hospital. *Signed by* : C. E. Dent, Paul A. Barrett, Alexander Lawson.
- Singh, Nazar**, B.Sc.Hons. and M.Sc.Tech. (Punjab). Indian. 92, Brocco Bank, Sheffield, 11. Research Student, Chemistry Department, The University, Sheffield, 10. *Signed by* : Brynmor Jones, R. D. Haworth, E. Gertrude Turner.
- Stross, Vilem**, M.D. (Prague). Czechoslovakian. 59, Buckingham Street, Aylesbury. Research Chemist, International Alloys, Ltd., Aylesbury. *Signed by* : G. H. Osborn, R. C. Chirside, W. Cule Davies.
- ***Walker, James Andrew Jamieson**. English. 5, Carlton Bank, Harpenden. Army Officer, Corps of Royal Engineers. *Signed by* : Frederick Challenger, J. W. Baker, F. R. Goss.

UNDER SPECIAL PROVISION APPERTAINING TO CANDIDATES RESIDENT ABROAD.

- Biswas, Indubhushan**, M.Sc. (Calcutta). Indian. T. N. J. College, Bhagalpore. Head of the Department of Chemistry. *Signed by* : P. B. Ganguly, R. C. Ray.
- Broadbent, David Stanley**, B.Sc. and Ph.D. (Lond.), D.I.C., A.M.I.Chem.E. British. 24, The Common, Ealing, W. 5. Works Manager, West African Soap Co., Apapa, Nigeria. *Signed by* : William V. Mitchell.
- Doering, William von Eggers**, B.S. and Ph.D. (Harvard). American. 652 Chandler Laboratory, Columbia University, New York City, 27. Assistant Professor of Organic Chemistry. *Signed by* : Louis P. Hamment.
- Ganapathi, K.**, B.A. and D.Sc. (Madras). British. Department of Chemotherapy, Haffkine Institute, Parel, Bombay. Assistant Director, Haffkine Institute, Bombay. *Signed by* : K. Venkataraman, J. C. Ghosh.
- Godet, Claude**, Ing.Chim. (Zurich). Swiss. Spiez, O.B., Switzerland. Employed in the Technical Military Service Laboratoires de Wimmis. *Signed by* : H. E. Fierz-David.
- Østrup, Gregers Lejff**. Danish. Organic Chemistry Laboratory, The Royal Technical College, Sølvgade 83, København K. Assistant in the Organic Chemistry Laboratory. *Signed by* : H. Baggesgaard Rasmussen.
- Rao, S. Balakrishna**, M.Ph. (Benares). Indian. Navaratna Pharmaceutical Laboratories, P.B. 13, Mattancherri P.O., Cochin. Partner and Chemist, Navaratna Pharmaceutical Laboratories. *Signed by* : M. R. Natarajan.

- Serdaroglu, Nami**, Dr.Ing. (Dresden), Dip. Chem. (Istanbul). Turkish. Teknik Universitesi, Istanbul. Director of Chemical Laboratory and Professor of Chemistry. *Signed by* : L. L. Bircumshaw, Stanley Peat.
- Schmidt, Willi Georg**, Dr.techn. and Chem.Ing. (Zurich), D.I.C. Swiss. Visp, Switzerland. Head of a research section in chemical industry, "Lonza" works. *Signed by* : D. M. Newitt.
- Spencer, Edward Peter**, Inter.B.Sc. (Lond.). British. Carlton House, 495 Wilbraham Road, Chorlton-cum-Hardy, Manchester, 21. At present with H.M. Forces. *Signed by* : P. Alexander.

* Reduced annual subscription.

PAPERS RECEIVED

List of papers received between June 13th and July 10th, 1946. (This list does not include the titles of papers which have been read at a Scientific Meeting or which have appeared in the *Journal*.)

- "Reactions of cellulose. Part I." By J. HONEYMAN.
- "Respiratory stimulants. Part I. Fully substituted ureas derived from $\alpha\omega$ -alkylenediamines." By W. R. BOON.
- "Amidines. Part III. Preparation of substituted amidines from ammonium or substituted ammonium salts and *N*-acylbenzenesulphonalkylamides or acylbenzenesulphonanilides." By P. OXLEY and W. F. SHORT.
- "The cyclic methyleneimines. Mechanism of the production of certain aldehydes." By J. GRAYMORE.
- "Cinnolines. Part IX. The preparation of some 6:7- and 7:8-disubstituted-4-hydroxycinnolines." By J. R. KENEFORD and J. C. E. SIMPSON.
- "Cinnolines. Part X. The preparation of 4-chloro-2-aminoacetophenone and related 4-hydroxycinnolines." By C. M. ATKINSON and J. C. E. SIMPSON.
- "Cinnolines. Part XI. 8-Nitro-4-hydroxycinnoline." By J. C. E. SIMPSON.
- "Preparation and properties of some long-chain aliphatic amines." By E. T. BORROWS, B. M. C. HARGREAVES, J. E. PAGE, J. C. L. RESUGGAN, and F. A. ROBINSON.
- "Preparation of iodinated mono- and di-phenyl-acetic and -propionic acids." By J. W. BARNETT, F. A. ROBINSON, and B. M. WILSON.
- "The conversion of sucrose into pyridazine derivatives. Part I. 3-Sulphanilamido-6-methylpyridazine." By W. G. OVEREND and L. F. WIGGINS.
- "The conversion of sucrose into furan compounds. Part III. Some furan amidines." By F. H. NEWTH and L. F. WIGGINS.
- "The thermal decomposition of mustard gas." By A. H. WILLIAMS.
- "Acridine syntheses and reactions. Part III. Synthesis of aminoacridines from formic acid and amines." By A. ALBERT.
- "Note. Improved preparation of 4:4'-diaminobenzil and 2:2'-dihydroxybenzil." By H. L. GEE and J. HARLEY-MASON.
- "Experiments on the synthesis of purine nucleosides. Part XVI. 9- β -*d*-Mannopyranosidoadenine. A proof of the location of the sugar residue in adenosine." By B. LYTHGOE, H. SMITH, and A. R. TODD.
- "Experiments on the synthesis of purine nucleosides. Part XVII. The preparation of 4-glycofuranosido-aminopyrimidines and a synthesis of 9-*l*-arabofuranosido-2-methylthioadenine." By G. W. KENNER, B. LYTHGOE, and A. R. TODD.
- "A new synthesis of benzopyrylium salts." By A. W. JOHNSON and R. R. MELHUISE.
- "The nitration of 1:5-dihydroxy- and 1:5-diacetoxy-naphthalene, 5-methoxy-1-acetoxynaphthalene, 5-methoxy-1-naphthol, and 1:5-dimethoxynaphthalene." By R. H. THOMSON, E. RACE, and F. M. ROWE.
- "The absorption spectra of organic compounds containing nitrogen. Part I. Derivatives of hydantoin." By R. E. STUCKEY.
- "A general method for the preparation of solid aryl diazonium sulphates and conditions for the diazotisation of α -naphthylamine, *m*-toluidine, and *m*-anisidine by nitrosyl sulphuric acid." By H. H. HODGSON and A. P. MAHADEVAN.
- "Amidines. Part IV. Preparation of amidines from cyanides and ammonium thiocyanate or substituted ammonium thiocyanates." By M. W. PARTRIDGE and W. F. SHORT.
- "Syntheses in the morphine series. Part I. Derivatives of bicyclo[1:3:3]-aza-2-nonane." By J. A. BARLTROP.
- "Amidines. Part V. Preparation of amidines from cyanides and substituted aminomagnesium halides." By R. P. HULLIN, J. MILLER, and W. F. SHORT.

- "The crystal structure of pyrene. A quantitative *X*-ray investigation." By J. M. ROBERTSON and J. G. WHITE.
- "The aliphatic thiols and their derivatives. Part I. Aliphatic thiol-amines." By J. HARLEY-MASON.
- "Studies in the thiazole series. Part I. The reaction between thiourea and *s*-dichloroacetone." By J. HARLEY-MASON.
- "Some reactions and derivatives of the 6- and 7-nitro-2-naphthylamines. Part I. Bromination, halogeno-derivatives, and the preparation of the new 7-nitro-2-naphthol." By H. H. HODGSON and E. R. WARD.
- "Thiosulphate complexes of the trivalent metals, iron, aluminium, and chromium." By N. URI.
- "The ferric thiocyanate complex in ethyl alcoholic solution." By N. URI.
- "The isolation of indene from heavy naphthas." By R. D. HAWORTH, C. LINDLEY, and D. WOODCOCK.
- "Pyrazine derivatives. Part I. 2-Hydroxy-3:6-dimethylpyrazine." By R. A. BAXTER, G. T. NEWBOLD, and F. S. SPRING.
- "Pyrazine derivatives. Part II. A synthesis of a racemic 2-hydroxy-3:6-di-*sec*-butylpyrazine and its relationship to deoxyaspergillic acid." By G. T. NEWBOLD and F. S. SPRING.
- "Application of the Hofmann reaction to the synthesis of heterocyclic compounds. Part IV. The synthesis of 9-*d*-xylopyranosidoxanthine." By R. A. BAXTER and F. S. SPRING.
- "A note on the chlorination of 2-aminothiazole with sulphuryl chloride." By E. PEDLEY.
- "The re-distribution and desorption of adsorbed gases." By R. F. BARROW, C. J. DANBY, J. G. DAVOUD, C. N. HINSHELWOOD, and L. A. K. STAVELEY.
- "The structures of Hantzsch's isomeric diazocyanides." By D. ANDERSON, R. J. W. LE FÈVRE, and J. SAVAGE.
- "The interchange of heat between a gas stream and solid granules." By J. R. ARTHUR and J. W. LINNETT.
- "A relationship between viscosity, vapour pressure, and cohesive energy of a liquid." By L. H. THOMAS.
- "A relation between fluidity and chemical constitution." By L. H. THOMAS.
- "Studies on biological methylation. Part X. The fission of the mono- and di-sulphide links by moulds." By F. CHALLENGER and P. T. CHARLTON.
- "The action of heat on diphenylchloroarsine." By G. D. PARKES, R. J. CLARKE, and B. H. THEWLIS.

LOCAL REPRESENTATIVES OF THE CHEMICAL SOCIETY

- Aberdeen.* J. M. C. Thompson, M.A., D.Phil., A.R.I.C., Chemistry Department, Marischal College, The University, Aberdeen.
- Australia.* T. Iredale, D.Sc., F.R.I.C., The University, Sydney, Australia.
- Birmingham.* L. L. Bircumshaw, M.A., D.Sc., Department of Chemistry, The University, Edgbaston, Birmingham, 15.
- Bristol.* C. E. H. Bawn, Ph.D., Chemistry Department, The University, Woodland Road, Bristol.
- Cambridge.* B. Lythgoe, Ph.D., Organic Chemistry Department, The University, Cambridge.
- Canada.* Professor W. D. McFarlane, M.A., Ph.D., Macdonald College, St. Anne de Bellevue, Quebec, Canada.
- Edinburgh.* E. G. V. Percival, D.Sc., Ph.D., F.R.I.C., Chemistry Department, King's Buildings, West Mains Road, Edinburgh.
- Eire.* Professor T. S. Wheeler, D.Sc., Ph.D., F.R.I.C., Chemical Department, University College, Upper Merrion Street, Dublin.
- Exeter.* S. J. Gregg, Ph.D., A.R.C.S., A.R.I.C., Department of Chemistry, Washington Singer Laboratories, Prince of Wales' Road, Exeter.
- Glasgow.* J. D. Loudon, Ph.D., Chemistry Department, The University, Glasgow, W. 2.
- India.* Sir Shanti S. Bhatnagar, O.B.E., D.Sc., F.R.S., The University, Lahore, Punjab, India.
- Leeds.* F. R. Goss, D.Sc., Ph.D., F.R.I.C., The University, Leeds, 2.
- Liverpool.* W. B. Whalley, B.Sc., Ph.D., Organic Chemistry Department, The University, Liverpool.
- „ L. A. Haddock, M.Sc., F.R.I.C., I.C.I. Ltd., (General Chemicals Division), Research Department, Widnes Laboratory, Widnes.
- Manchester.* A. E. Gillam, D.Sc., F.R.I.C., Chemistry Department, The University, Manchester.
- „ J. C. Withers, Ph.D., A.R.I.C., Shirley Institute, Didsbury, Manchester.
- Newcastle and Durham.* W. Cocker, Ph.D., M.Sc., Chemistry Department, Kings College, Newcastle-on-Tyne.
- New Zealand.* Professor F. G. Soper, D.Sc., Ph.D., F.R.I.C., University of Otago, Dunedin, New Zealand.
- Northern Ireland.* H. Graham, D.Sc., A.R.I.C., 26, Malone Hill Park, Belfast.
- North Wales.* W. Rogie Angus, M.A., D.Sc., Ph.D., F.R.I.C., Department of Chemistry, University College of North Wales, Bangor.
- Nottingham.* D. O. Jordan, Ph.D., M.Sc., A.R.I.C., University College, University Park, Nottingham.
- Oxford.* R. P. Bell, M.A., B.Sc., F.R.S., Balliol College, Oxford.
- St. Andrews and Dundee.* J. D. M. Ross, M.B.E., M.A., D.Sc., Chemistry Department, University College, Dundee.
- Sheffield.* Brynmor Jones, B.Sc., Ph.D., Chemistry Department, The University, Sheffield, 10.
- South Africa.* Professor W. Pugh, Ph.D., B.Sc., F.R.I.C., Chemistry Department, University of Cape Town, Rondebosch, S. Africa.
- Southampton.* S. H. Harper, B.Sc., D.Sc., Ph.D., A.R.C.S., D.I.C., University College, Southampton.
- South Wales.* Professor J. E. Coates, O.B.E., D.Sc., F.R.I.C., University College, Singleton Park, Swansea.

THE CHEMICAL SOCIETY

NOTICE OF FORTHCOMING SCIENTIFIC MEETINGS

LONDON (Burlington House).

Thursday, October 3rd, 1946, at 7.30 p.m.

The following papers will be read and discussed :

“The crystal structure of pyrene. A quantitative *X*-ray investigation.” By J. M. Robertson * and J. G. White.*

“The redistribution and desorption of adsorbed gases.” By R. F. Barrow, C. J. Danby, J. E. Davoud, C. N. Hinshelwood,* and L. A. K. Staveley.

Thursday, October 17th, 1946, at 7.30 p.m.

The following papers will be read and discussed :

“Pyrazine derivatives.” By R. A. Baxter, G. T. Newbold, and F. S. Spring.*

“Researches on acetylenic compounds. Acetylenic hydroxy-acids and their reactions.” By L. J. Haynes, E. R. H. Jones,* and M. C. Whiting.

Monday, October 21st, 1946, at 6 p.m.

Lecture, **A New Notation for Organic Chemistry**, by Dr. G. Malcolm Dyson, B.A., F.R.I.C.

Joint Meeting with the Royal Institute of Chemistry, the Society of Chemical Industry, and the Bureau of Abstracts to be held at the **London School of Hygiene and Tropical Medicine, Keppel Street, London, W.C.1.**

In this lecture Dr. Dyson will expound the principles of his ciphering system which enables the structure and structural relations of organic substances to be represented in a very concise and informative manner.

The new method of notation enables the structural formula (or ideograph) to be reduced to a linear form which has the following properties :—

1. It is unique for a given structure (*i.e.*, one structure cannot have two alternative ciphers).
2. It determines the enumeration with certainty.
3. It is capable of reduction to a punched card form, which can be manipulated mechanically.

As the new notation is independent of language, it has possibilities in the establishment of international indexes, and can be used for the compilation of summaries of information, such as Tables of Physical Properties.

This system has aroused considerable interest among chemists with whom it has been discussed, and Dr. Dyson's exposition of this important development in chemical notation should have a wide appeal to chemists in general, and not only to those who specialise on the organic side.

OUTSIDE LONDON.

ABERDEEN.

Friday, October 25th, 1946.

Lecture, **Microscopy with Electrons and X-Rays**, by Professor G. D. Preston, M.A., Sc.D., F.Inst.P.

Joint Meeting with the Local Section of the Royal Institute of Chemistry to be held at Marischal College.

EDINBURGH.

Thursday, October 10th, 1946, at 7.30 p.m.

Lecture by Dr. J. P. Baxter, B.Sc., A.M.I.Chem.E.

Joint meeting with the Local Sections of the Royal Institute of Chemistry and the Society of Chemical Industry to be held in the North British Station Hotel.

Tuesday, October 29th, 1946, at 7 p.m.

Lecture, **Some Observations on Biological Oxidation and Reduction**, by Dr. D. J. Bell, M.A., F.R.I.C.

Joint meeting with the Edinburgh University Chemical Society and the Local Sections of the Royal Institute of Chemistry and the Society of Chemical Industry to be held in the Biochemistry Lecture Theatre of the University, Teviot Place.

* To read paper.

GLASGOW.

Friday, October 25th, 1946, at 3.45 p.m.

Lecture, **Evidence Concerning the Mode of Action of Vitamins**, by Professor R. A. Morton, D.Sc., Ph.D., F.R.I.C.

Joint meeting with the Alchemists' Club and the Andersonian Chemical Society to be held in the Royal Technical College.

MANCHESTER.

Thursday, October 24th, 1946, at 7.30 p.m.

Lecture, **The Chemistry of Penicillin**, by Professor Wilson Baker, M.A., D.Sc., F.R.S.

Joint meeting with the Manchester University Chemical Society and the Local Section of the Royal Institute of Chemistry to be held in the Chemistry Department of the University.

NEWCASTLE AND DURHAM.

Friday, October 11th, 1946, at 5 p.m.

Meeting for the reading of original papers.

To be held in the Chemistry Lecture Theatre of King's College, Newcastle-upon-Tyne.

SHEFFIELD.

Thursday, October 17th, at 2.30 and 6 p.m.

Two Lectures, **The Principles and Applications of Polarography**, by Professor Jaroslav Heyrovsky, D.Sc., Ph.D.

Joint meetings with the South Yorkshire Section of the Royal Institute of Chemistry, the Sheffield Metallurgical Association, and the University Chemical Society, to be held in the General Lecture Theatre, The University, Western Bank.

Thursday, October 24th, 1946, at 5.30 p.m.

Lecture, **A Synthetic Approach to the Nucleotides**, by Professor A. R. Todd, D.Sc., F.R.S.

Joint meeting with the University Chemical Society to be held in the Chemistry Lecture Theatre of the University.

SOUTHAMPTON.

Thursday, October 17th, 1946, at 7 p.m.

Lecture, **Chemical Aspects of Work on Atomic Fission**, by Dr. H. J. Emeléus, F.R.S.

Joint Meeting with the Portsmouth and District Chemical Society to be held at the Municipal College, Portsmouth.

SOUTH WALES.

Friday, November 1st, 1946, at 6 p.m.

Lecture, **Homolytic Reactions**, by Professor D. H. Hey, D.Sc., Ph.D., F.R.I.C.

Joint Meeting with the University College of Swansea Chemical Society to be held at University College, Swansea.

PROCEEDINGS

OF THE

CHEMICAL SOCIETY.

OFFICIAL ANNOUNCEMENTS

TELEPHONE NUMBERS.

Fellows are reminded that the telephone numbers of the offices and library of the Society have now been changed to Regent 1675/6.

RESEARCH FUND.

A meeting of the Research Fund Committee will be held in November next. All persons, therefore, who have received grants, and whose accounts have not been declared closed by the Council, are informed that reports must be received by the Society not later than November 1st, 1946.

Applications for Grants, to be made on forms obtainable from the General Secretary, must be received on or before November 1st, 1946. Applications from Fellows will receive prior consideration.

Attention is drawn to the fact that the income arising from the Donation of the Worshipful Company of Goldsmiths is principally devoted to the encouragement of research in Inorganic and Metallurgical Chemistry, and that the income from the Perkin Memorial Fund is to be applied to investigations relating to problems connected with the Coal Tar and Allied Industries.

CENTENARY EXHIBITION.

The Exhibition Committee under the Chairmanship of Sir Robert Robertson, K.B.E., F.R.S. is now engaged in planning the exhibition which is to be held in the Science Museum during the period of the Centenary Celebrations and the Eleventh International Congress of Pure and Applied Chemistry. The Committee is anxious to learn the whereabouts of any specimens or historical apparatus, illustrative of the achievements of chemists working in this country since 1841 which might be made available on loan. Any such information, or offers of assistance, should be sent to the Secretary, Joint Exhibition Committee, c/o the Chemical Society, Burlington House, W. 1.

BRITISH STANDARDS.

The following draft revisions have been received for technical comment :—

CH(FCC)5977. Draft Revision of B.S. 580 for Trichlorethylene (Technical) Trichlorethylene (Stabilised).

CH(FCC)5978. Draft Revision of B.S. 662—Carbon disulphide.

CH(FCC)5981. Draft Revised B.S.S. for Diacetone Alcohol.

These have been placed in the Library and Fellows wishing to make technical comment are requested to do so before November 4th, 1946, to the British Standards Institution, 28, Victoria Street, Westminster, S.W.1.

LIST OF APPLICATIONS FOR FELLOWSHIP

(Fellows wishing to lodge objections to the election of these candidates should communicate with the Honorary Secretaries before September 30th, 1946. Such objections will be treated as confidential. The forms of application are displayed in the Library.)

***Alberman, Kenneth Bernard.** British. 12, Downage, Hendon, N.W. 4. Student reading for Part II Chemistry Natural Sciences Tripos. *Signed by* : Alex. R. Todd, N. B. Chapman, R. Hull.

Barby, Donald, B.A. (Oxon). British. The Cottage, Thurlby, Bourne. Instructor-Lieutenant (R.N.). *Signed by* : D. L.L. Hammick, S. F. Mason, H. M. Powell.

***Beeby, Mervyn Henry.** British. 23, Orange Street, South Wigston, Leicester. Student at Cambridge University. *Signed by* : N. B. Chapman, Alex. R. Todd, J. B. Whitworth.

Cann, Freshfield Leonard, B.Sc.Hons. (Lond.). British. 18, Waterer Rise, Wallington. Chief Chemist, Messrs. Ionlite Ltd., 89, Scrubs Lane, N.W. 10. *Signed by* : D. J. Saxby, F. G. Tryhorn, J. R. Partington.

***Clark, Nigel George,** B.A.Hons. (Oxon). British. 40, Leamington Street, Heaton, Bradford. Research Student. *Signed by* : Ronald P. Bell, D. G. Felton, H. M. Muir.

- ***Cosgrove, Dennis John**, B.Sc.Hons. (Lond.), A.R.I.C. British. 22, Highland Avenue, Hanwell, W. 7. Assistant Chemist, Plant and Animal Products Laboratories, Imperial Institute. *Signed by* : R. W. Pearman, W. H. Bennett, Norman S. Corney.
- Doherty, James McEleney**, A.R.I.C. British. c/o The Burmah Oil Co. (India Trading), Ltd., Victoria House, Chowringhee, Calcutta. Refinery Chemist with Burmah Oil Co. *Signed by* : R. Leslie Collett, H. J. T. Ellingham, G. Roche Lynch.
- ***Garforth, Francesa Mary (Mrs.)**, B.Sc. (Lond.). British. 45, Clarendon Road, Redland, Bristol, 6. Research Student. *Signed by* : C. K. Ingold, H. G. Poole, E. D. Hughes.
- Gerrard, William Fred**, A.R.I.C., M.Inst.F. British. 94, The Northern Road, Crosby, Liverpool, 23. Analytical and research chemist to the Liverpool Borax Co., Ltd., 6, St. Paul's Square, Liverpool. *Signed by* : James S. Merry, W. Murray, H. Warne.
- Harrison, Geoffrey Frederick**, B.Sc. (Lond.). British. 89, Blenheim Road, Bolton. Bacteriologist, Messrs. Bowmans (Warrington), Ltd., Chemical Manufacturers, Moss Bank Works, Widnes. *Signed by* : John C. Roberts, G. R. Barker, D. O. Jordan.
- Hart, Stanley James**, Inter.B.Sc. (Lond.), A.R.I.C. British. 50, Heather Drive, Dartford. Works Chemist, W. T. Henley's Telegraph Co., North Woolwich, E. 16. *Signed by* : John Harvey, Arthur I. Vogel, D. M. Cowan.
- Hilal, Osman Mohamed Mansour**, M.Sc. (Fouad I University). Egyptian. Chemistry Department, University College, Gower Street, W.C. 1. Research Student. *Signed by* : S. Sugden, Henry Terrey, J. N. E. Day.
- Huang, Hsin-Min**, B.Sc. (National Tsing Hua University). Chinese. University Chemical Laboratory, Pembroke Street, Cambridge. Research Student. *Signed by* : F. G. Mann, A. R. Todd, J. W. G. Porter.
- ***Jenkins, David Philip**. British. Charnwood, Upper Canning Street, Ton Pentre, Rhondda. Student of Chemistry. *Signed by* : W. G. Palmer, N. B. Chapman, Alex. R. Todd.
- Krishnan, Kariamanikkam Srinivasa**, D.Sc. (Madras), F.R.S. British. The University, Allahabad. Professor of Physics, University of Allahabad. *Signed by* : C. H. Desch, J. M. Robertson, G. A. Jeffrey.
- Mills, Herbert**, M.Sc., Ph.D. (Dun.), F.R.I.C. British. 52, Church Road, Hale, Liverpool. Chief of Research, Pigment Group, Imperial Smelting Corporation. *Signed by* : J. G. Cockburn, J. Southwood, S. Pickholz.
- ***Murray, Margaret Alison**, B.A. (Cantab). British. Newnham College, Cambridge. Research Student, Cambridge University. *Signed by* : M. L. Tomlinson, Alex. R. Todd, B. Lythgoe.
- ***Parsons, Roger**, A.R.C.S. British. 45, South End Road, Hampstead, N.W. 3. Research Student. *Signed by* : A. A. Eldridge, H. V. A. Briscoe, E. R. H. Jones.
- Poole, Francis Joseph Thomas**, Inter.B.Sc. (Lond.). British. 44, Clark Road, Wolverhampton. Chief Chemist, West Midlands Joint Electricity Authority, Phoenix Buildings, Dudley Road, Wolverhampton. *Signed by* : John C. Warr, L. G. Gabriel, C. W. Mobberley.
- Schweitzer, Hans**, M.A. and D.Phil. (Berlin). Austrian. Saxons, Yester Road, Chislehurst. Technical Manager, Cathode Chemicals, Ltd., 4, Lloyds Avenue, E.C. 3. *Signed by* : G. S. W. Marlow, J. Whittaker, R. Barrington Brock.
- Scully, Dewi Brynmor**, B.A. (Oxon). British. Treffgarne, Clasemont, Morrision, Swansea. Fuel Engineer, Ministry of Fuel. *Signed by* : John F. W. McOmie, W. Baker, H. B. Watson.
- Smith, Harold Hughes**. British. c/o Mrs. Clark, 25, Marlborough Road, Roatt, Cardiff. Chief Chemist, International Alloys, Cardiff. *Signed by* : A. S. Minton, D. Owen Davies, Edmund Frankel.
- ***Spaull, Allan James Barnard**. British. 652 Rochester Way, Eltham Park, S.E. 9. Student, University College, Southampton. *Signed by* : H. W. B. Reed, Ishbel G. M. Campbell, G. F. Snook.
- Stewart, Eric Theal**, M.Sc. (Cape Town). South African. Department of Chemistry, University of Cape Town. Junior Lecturer in Chemistry. *Signed by* : E. Newbery, W. Pugh, W. S. Rapson.
- ***Stranz, Gertraud Anna**, B.Sc. (Lond.). German. 55, Oakleigh Drive, Croxley Green, Herts, Research Chemist. *Signed by* : R. W. West, W. Gerrard, D. H. Richardson.
- Ward, Edward Raymond**, B.Sc.Hons. (Lond.), A.R.I.C. British. 66, Deighton Road, Deighton, Huddersfield. Research Student and part-time Lecturer. *Signed by* : Herbert H. Hodgson, D. P. Dodgson, P. B. R. Murti.
- ***Whitaker, Alma Mary Beryl**. British. Newnham College, Cambridge. Reading for Part II, Natural Sciences Tripos, Cambridge. *Signed by* : Delia M. Simpson, M. L. Tomlinson, A. E. Alexander.
- ***Wilson, George Alexander**, M.Sc. (Q.U.B.), A.R.I.C. British. Bogvale, Aghadowe, Co. Derry. Assistant in the Chemistry Department, Queens University, Belfast. *Signed by* : R. C. Pink, A. R. Ubbelohde, H. Graham.

UNDER SPECIAL PROVISION APPERTAINING TO CANDIDATES RESIDENT ABROAD.

- Gates, William Nikola**. Absolutorium of Studies, Vienna University. Palestinian. P.O.B. 1611, Haifa, Palestine. Clerk, H.Q., 3 Base Workshops, Royal Electrical and Mechanical Engineers, Khayat Beach. *Signed by* : Gerrard W. Baker.
- Krauze, Stanislaw**, D.Pharm. (Warsaw). Polish. 24 Chocimska Str., Warsaw. Professor of Lodz University, Chair for Food Inspection. Chief of Food Control in Poland, Food Department of State Institute of Hygiene in Warsaw. *Signed by* : H. E. Cox.
- Spector, Leonard B.** M.S. (Michigan). American. 254 Osborne Terrace, Newark 8, New Jersey, U.S.A. Chemist, Clinton Laboratories, Oak Ridge, Tennessee. *Signed by* : R. P. Linstead.

* Reduced annual subscription.

PAPERS RECEIVED

List of papers received between July 10th and August 9th, 1946. (This list does not include the titles of papers which have been read at a Scientific Meeting or which have appeared in the *Journal*.)

- “The conversion of sucrose into thiazole derivatives. Part I. Sulphanilamidothiazoles derived from levulic acid.” By H. GREGORY and L. F. WIGGINS.
- “Tetra-aryl-phosphonium, -arsonium and -stibonium salts. Part III. The synthesis and properties of tetra-arylarsonium salts having four dissimilar aryl groups.” By F. G. MANN and J. WATSON.
- “The infra-red spectra and molecular structure of certain isomeric diazocyanides.” By N. SHEPPARD and G. B. B. M. SUTHERLAND.

- "The action of Grignard reagents on esters of optically active carboxylic acids." By A. CAMPBELL and J. KENYON.
- "Anhydrides of polyhydric alcohols. Part VI. 1 : 4-3 : 6-Dianhydro mannitol and 1 : 4-3 : 6-dianhydro sorbitol from sucrose." By R. MONTGOMERY and L. F. WIGGINS.
- "The Skraup reaction with *m*-substituted anilines." By L. BRADFORD, T. J. ELLIOTT, and F. M. ROWE.
- "The chemistry of β -chloroalkylamines. Part I. Preparation and general reactions." By W. E. HANBY and H. N. RYDON.
- "The chemistry of β -chloroalkylamines. Part II. Reactions of tertiary β -chloroalkylamines in water." By W. E. HANBY, G. S. HARTLEY, E. O. POWELL, and H. N. RYDON.
- "The chemistry of β -chloroalkylamines. Part III. The dimerisation and hydrolysis of $\beta\beta'\beta''$ -trichloroethylamine." By C. W. CRANE and H. N. RYDON.
- "Some dichloroamine derivatives." By L. J. LERMIT and (the late) R. C. G. MOGGRIDGE.
- "British anti-Lewisite and related compounds." By L. A. STOCKEN.
- "A reaction of certain diazosulphonates derived from β -naphthol-1-sulphonic acid. Part XIX. Derivatives of 4'-nitro-2'-methoxybenzene-2-naphthol-1-diazosulphonate." By F. M. ROWE and E. J. CROSS.
- "A reaction of certain diazosulphonates derived from β -naphthol-1-sulphonic acid. Part XX. The stabilities of acrylic acid derivatives from sodium 1-aryazo- β -naphthaquinone-1-sulphonate and an investigation of derived isoindolinones." By F. M. ROWE, W. T. McFADYEN, and A. T. PETERS.
- "Evidence for the bromolytic bond fission of 'positive halogen' compounds." By A. ROBERTSON and W. A. WATERS.
- "Nitration in sulphuric acid. Part IV. Kinetics of the nitration of 2 : 4-dinitrotoluene." By G. M. BENNETT, J. C. D. BRAND, D. M. JAMES, T. G. SAUNDERS, and G. WILLIAMS.
- "Magnetic optical rotatory powers and diamagnetic susceptibilities of the isomeric aromatic diazocyanides." By D. ANDERSON, (MISS) M. E. BEDWELL, and R. J. W. LE FÈVRE.
- "The constitution of ψ -santonin. Part III. Some synthetical experiments." By WESLEY COCKER and C. LIPMAN.
- "Amidines. Part VI. Preparation of 2-substituted 4 : 5-dihydroglyoxalines and ring homologues from cyanides and alkanediamines." By P. OXLEY and W. F. SHORT.
- "The chemistry of 1-azantraquinone. Part II. Sulphonation of 1-azantraquinone." By G. R. CLEMO and N. LEGG.
- "The chemistry of 1-azantraquinone. Part III. Chloro-derivatives of 2 : 4-dimethyl-1-azantraquinone." By G. R. CLEMO and N. LEGG.
- "The conversion of sucrose into pyridazine derivatives. Part II. 4-Amino-2-phenyl-6-methyl-3-pyridazine, 4-amino-2-(*p*-nitrophenyl)-6-methyl-3-pyridazine, and their sulphanilamido derivatives." By W. G. OVEREND and L. F. WIGGINS.
- "Synthesis of diaminoacridines. Part II." By A. A. GOLDBERG and W. KELLY.
- "Composition, pressure, and temperature relationships in binary azeotropic systems." By E. A. COULSON and E. F. G. HERINGTON.
- "The mechanism of substitution at a saturated carbon atom." By A. G. EVANS, M. G. EVANS, and M. POLANYI.
- "Carbazoles, carbolines, and related compounds. Part I. Quindoline derivatives." By S. J. HOLT and V. A. PETROW.
- "The structure of clavatul, a metabolic product of *Aspergillus clavatus*." By C. H. HASSALL and A. R. TODD.
- "An X-ray and thermal examination of the glycerides. Part VIII. Glycerides of erucic, brassidic, oleic, and elaidic acids." By M. G. R. CARTER and T. MALKIN.
- "Attempts to find new chemotherapeutic amidines. Part VII." By J. O. HARRIS.
- "The vapour pressure of water over aqueous solutions of the chlorides of zinc and cadmium." By J. E. GARSIDE.
- "Some amines and amides derived from vanillin." By A. A. L. CHALLIS and G. R. CLEMO.
- "Steroids and the Walden inversion. Part I. Derivatives of androstane and cholestane." By C. W. SHOPPEE.
- "Steroids and the Walden inversion. Part II. Derivatives of Δ^5 -cholestene and Δ^5 -androstene." By C. W. SHOPPEE.
- "The metabolism of polycyclic compounds; the configuration of the dihydroxydihydroanthracenes produced from anthracene." By E. BOYLAND and C. W. SHOPPEE.
- "The cyano-ethylation of arsines, and the preparation of amidinoalkylarsines and carboxyalkylarsines." By R. C. COOKSON and F. G. MANN.

LOCAL REPRESENTATIVES OF THE CHEMICAL SOCIETY

<i>Aberdeen.</i>	J. M. C. Thompson, M.A., D.Phil., A.R.I.C., Chemistry Department, Marischal College, The University, Aberdeen.
<i>Australia.</i>	T. Iredale, D.Sc., F.R.I.C., The University, Sydney, Australia.
<i>Birmingham.</i>	L. L. Bircumshaw, M.A., D.Sc., Department of Chemistry, The University, Edgbaston, Birmingham, 15.
<i>Bristol.</i>	C. E. H. Bawn, Ph.D., Chemistry Department, The University, Woodland Road, Bristol.
<i>Cambridge.</i>	B. Lythgoe, Ph.D., Organic Chemistry Department, The University, Cambridge.
<i>Canada.</i>	Professor W. D. McFarlane, M.A., Ph.D., Macdonald College, St. Anne de Bellevue, Quebec, Canada.
<i>Edinburgh.</i>	E. G. V. Percival, D.Sc., Ph.D., F.R.I.C., Chemistry Department, King's Buildings, West Mains Road, Edinburgh.
<i>Eire.</i>	Professor T. S. Wheeler, D.Sc., Ph.D., F.R.I.C., Chemical Department, University College, Upper Merrion Street, Dublin.
<i>Exeter.</i>	S. J. Gregg, Ph.D., A.R.C.S., A.R.I.C., Department of Chemistry, Washington Singer Laboratories, Prince of Wales' Road, Exeter.
<i>Glasgow.</i>	J. D. Loudon, Ph.D., Chemistry Department, The University, Glasgow, W. 2.
<i>India.</i>	Sir Shanti S. Bhatnagar, O.B.E., D.Sc., F.R.S., The University, Lahore, Punjab, India.
<i>Leeds.</i>	F. R. Goss, D.Sc., Ph.D., F.R.I.C., The University, Leeds, 2.
<i>Liverpool.</i>	W. B. Whalley, B.Sc., Ph.D., Organic Chemistry Department, The University, Liverpool.
"	L. A. Haddock, M.Sc., F.R.I.C., I.C.I. Ltd., (General Chemicals Division), Research Department, Widnes Laboratory, Widnes.
<i>Manchester.</i>	A. E. Gillam, D.Sc., F.R.I.C., Chemistry Department, The University, Manchester.
"	J. C. Withers, Ph.D., A.R.I.C., Shirley Institute, Didsbury, Manchester.
<i>Newcastle and Durham.</i>	W. Cocker, Ph.D., M.Sc., Chemistry Department, Kings College, Newcastle-on-Tyne.
<i>New Zealand.</i>	Professor F. G. Soper, D.Sc., Ph.D., F.R.I.C., University of Otago, Dunedin, New Zealand.
<i>Northern Ireland.</i>	H. Graham, D.Sc., A.R.I.C., 26, Malone Hill Park, Belfast.
<i>North Wales.</i>	W. Rogie Angus, M.A., D.Sc., Ph.D., F.R.I.C., Department of Chemistry, University College of North Wales, Bangor.
<i>Nottingham.</i>	D. O. Jordan, Ph.D., M.Sc., A.R.I.C., University College, University Park, Nottingham.
<i>Oxford.</i>	R. P. Bell, M.A., B.Sc., F.R.S., Balliol College, Oxford.
<i>St. Andrews and Dundee.</i>	J. D. M. Ross, M.B.E., M.A., D.Sc., Chemistry Department, University College, Dundee.
<i>Sheffield.</i>	Brynmor Jones, B.Sc., Ph.D., Chemistry Department, The University, Sheffield, 10.
<i>South Africa.</i>	Professor W. Pugh, Ph.D., B.Sc., F.R.I.C., Chemistry Department, University of Cape Town, Rondebosch, S. Africa.
<i>Southampton.</i>	S. H. Harper, B.Sc., D.Sc., Ph.D., A.R.C.S., D.I.C., University College, Southampton.
<i>South Wales.</i>	Professor J. E. Coates, O.B.E., D.Sc., F.R.I.C., University College, Singleton Park, Swansea.

THE CHEMICAL SOCIETY

NOTICE OF SCIENTIFIC MEETINGS DURING NOVEMBER.

LONDON (*Burlington House*).

Thursday, November 7th, 1946, at 7.30 p.m.

Discussion, **Nitration**, arranged by Dr. G. M. Bennett, M.A., F.R.I.C.

The following contributions will be made :

Nature of the nitrating agent :

- | | | |
|-------------------------|---|---|
| (a) General argument | } | by Dr. G. M. Bennett, M.A., F.R.I.C., and Mr. J. C. D. Brand, M.Sc. |
| Migration | | |
| Water-titration | | |
| (b) Cryoscopy | } | by Professor C. K. Ingold, D.Sc., F.R.S., and Mr. D. J. Millen, B.Sc. |
| Hantzsch's perchlorates | | |
| Raman evidence | | |

Kinetics of nitration in sulphuric acid, by Professor Gwyn Williams, D.Sc., Ph.D.

Kinetics of nitration in other solvents :

- | | | |
|----------------------|---|---|
| (a) Organic solvents | } | by Professor E. D. Hughes, D.Sc., Ph.D., F.R.I.C., and Dr. I. Reed. |
| (b) Water | | |

(A limited number of abstracts of the contributions will be available and can be obtained by Fellows from the General Secretary.)

Thursday, November 21st, 1946, at 7.30 p.m.

The following papers will be read and discussed :

- “ The kinetics of halogen addition to unsaturated compounds. Part XII. Iodine catalysis of chlorine and bromine addition to ethyl cinnamate,” by H. D. C. Waters, A. R. Caverhill, and P. W. Robertson.*
- “ Evidence for the homolytic bond fission of ‘ positive halogen ’ compounds,” by A. Robertson and W. A. Waters.*

OUTSIDE LONDON.

EIRE.

Wednesday, November 20th, 1946, at 7.30 p.m.

Paper, **Biochemical Microtechnique**. To be read by Dr. T. G. Brady, M.Sc., A.R.I.C.

Joint meeting with the Local Section of the Royal Institute of Chemistry, to be held in the Chemical Department of University College, Upper Merrion Street, Dublin.

EDINBURGH.

Thursday, November 21st, 1946, at 7.30 p.m.

Lecture, **Some Developments in the General Methods of Organic Chemistry**, by Professor F. S. Spring, D.Sc., Ph.D.

Joint meeting with the Local Sections of the Royal Institute of Chemistry and the Society of Chemical Industry to be held in the North British Station Hotel.

GLASGOW.

Friday, November 15th, 1946, at 7.15 p.m.

Lecture, **Melting and Other Phase Changes**, by Professor A. R. Ubbelohde, M.A., D.Sc., F.R.I.C.

To be held in the Chemistry Lecture Theatre of the University.

* To read paper.

LIVERPOOL.

Wednesday, November 13th, 1946, at 5 p.m.

Lecture, **Some Applications of Infra-red Measurements**, by Dr. H. W. Thompson, M.A., F.R.S.
To be held in the Chemistry Lecture Theatre of the University.

Thursday, November 27th, at 7 p.m.

Lecture, **The Development and Industrial Application of Wetting Agents**, by Mr. A. V. Billingham, B.Sc.

Joint Meeting with the Local Section of the Royal Institute of Chemistry to be held in the Chemistry Lecture Theatre of the University.

MANCHESTER.

Friday, November 15th, 1946, at 6.30 p.m.

Lecture, **The Chemistry of Plant Gums and Related Substances**, by Professor E. L. Hirst, M.A., D.Sc., F.R.S., and Dr. J. K. N. Jones, M.Sc., A.R.I.C.

Joint meeting with the Manchester Federation of Scientific Societies.
(Place of meeting to be announced later.)

NEWCASTLE AND DURHAM.

Friday, November 22nd, 1946, at 5 p.m.

Bedson Club Lecture, **Insecticides**, by Dr. J. L. Simonsen, F.R.S., F.R.I.C.

To be held at King's College, Newcastle-on-Tyne, and all Fellows are invited.

NORTH WALES.

Thursday, November 21st, 1946, at 5.30 p.m.

Lecture, **Nitration in Sulphuric Acid**, by Dr. G. M. Bennett, M.A., F.R.I.C.

Joint meeting with the University College of North Wales Chemical Society, Liverpool section and the University of Liverpool Chemical Society, to be held in the Department of Chemistry at University College, Bangor.

NOTTINGHAM.

Thursday, November 21st, 1946, at 4.30 p.m.

Lecture, **Some Aspects of the Chemistry of Paludrine**, by Dr. F. L. Rose.

Joint meeting with the University College Physical and Chemical Society to be held in the Large Chemistry Theatre of University College.

ST. ANDREWS AND DUNDEE.

Friday, November 15th, 1946, at 5 p.m.

Lecture, **Applications of the Hofmann Reaction to the Synthesis of Heterocyclic Compounds**, by Professor F. S. Spring, D.Sc., Ph.D.

Joint meeting with the St. Andrews University Chemical Society to be held in the Chemistry Lecture Theatre, United College, St. Andrews.

SHEFFIELD.

Friday, November 8th, 1946, at 5.30 p.m.

Lecture, **Some Applications of Infra-red Measurements**, by Dr. H. W. Thompson, M.A., F.R.S.

Joint meeting with the University Chemical Society to be held in the Chemistry Lecture Theatre of the University.

Thursday, November 21st, 1946, at 6 p.m.

Lecture, **Chemistry in the Metallurgical Industries**, by Dr. C. H. Desch, F.R.S.

Joint meeting with the South Yorkshire Section of the Royal Institute of Chemistry, the Sheffield Metallurgical Association, and the University Chemical Society, to be held in the Chemistry Lecture Theatre of the University.

SOUTH WALES.

Friday, November 1st, 1946, at 6 p.m.

Lecture, **Homolytic Reactions**, by Professor D. H. Hey, D.Sc., Ph.D., F.R.I.C.

Joint meeting with the University College of Swansea Chemical Society to be held at University College, Swansea.

PROCEEDINGS
OF THE
CHEMICAL SOCIETY.

OFFICIAL ANNOUNCEMENTS.

DEATHS.

The Council regret to announce the deaths of the following Fellows :

	Elected.	Died.
Raymond Edwin Crowther (Beaconsfield)	May 2nd, 1912	April 16th, 1946
Owen Richard Jones (Holyhead)	Nov. 16th, 1944	July 27th, 1946
Edgar Francis Smith (N.W. 1)	Feb. 21st, 1884	July 16th, 1946
Helmut Strauss (Ealing)	Jan. 18th, 1945	Aug. 2nd, 1946

CONGRATULATIONS.

The President has conveyed the congratulations of the Council to Edgar William Richard Steacie, who was awarded the O.B.E. in the Dominion (Canada) Day Honours List.

ACKNOWLEDGMENTS.

The thanks of the Council have been conveyed to Mr. D. Bagley, Mrs. K. Fyleman, Mr. P. McGregor, Dr. R. Raper and the Wellcome Foundation for gifts of the Society's publications, and to the Royal Society for a contribution from the Scientific Publications Grant-in-Aid Fund towards the cost of publications.

CENTENARY CELEBRATIONS AND 11TH INTERNATIONAL CONGRESS OF PURE AND APPLIED CHEMISTRY.

At the 10th International Congress of Pure and Applied Chemistry held in Rome in May 1938, it was unanimously decided that the 11th Congress should be held in London in 1941 concurrently with the celebration of the centenary of the foundation of the Chemical Society.

By reason of the war, both the Centenary Celebrations of the Chemical Society and the 11th International Congress were postponed; it has now been decided that both events should take place in London in July 1947.

The Centenary Celebrations will take place in London on July 15th—17th, 1947. Distinguished Chemists from overseas are being invited to take part. The programme will include a Centenary Address and a Centenary Dinner, the Faraday Lecture and other lectures, social functions, and visits to places of interest in the London area.

The 11th International Congress of Pure and Applied Chemistry will meet in London, under the presidency of Lord Leverhulme, from the 16th July, 1947, to 24th July, 1947, and it is hoped that delegates from many countries will be present.

To co-ordinate action on matters of common concern to the Society and the Congress a Collaboration Committee has been set up.

Details about the Centenary Celebrations will be notified to Fellows in due course.

Further information about the Congress may be obtained from the Hon. Organiser at the following address :—

The 11th International Congress of Pure and Applied Chemistry,
56, Victoria Street,
London, S.W. 1.
Telephone : Victoria 5216.

REDUCED SUBSCRIPTION FOR FELLOWS UNDER 25 YEARS OF AGE.

In accordance with the proposal which was agreed at the Extraordinary General Meeting held on the 25th July, 1946, the Council have decided that the reduced annual subscription payable by Fellows under 25 years of age be increased from £1 10s. 0d. to £1 15s. 0d. as from January 1st, 1947.

LIFE COMPOSITION FEES.

The following is the scale of life composition fees which will come into effect on the 1st January, 1947.

	£	s.	d.
Fellows who have paid less than 10 annual subscriptions	52	10	0
" " " " more " 10 " " 	35	0	0
" " " " " " 15 " " 	26	5	0
" " " " " " 20 " " 	21	0	0
" " " " " " 25 " " 	17	10	0

QUARTERLY REVIEWS.

During 1947 the Society will publish a series of *Quarterly Reviews* in addition to the *Annual Reports on the Progress of Chemistry*. Each quarterly issue will be of approximately 96 pages and will be composed of articles on selected topics from general and physical, inorganic, and organic chemistry. It is intended that each review article shall be of interest to chemists generally and not only to workers in the particular field. It is hoped that the first issue will be published at the end of February 1947 and thereafter at three monthly periods.

FELLOWS' CHOICE OF PUBLICATIONS IN 1947.

(a) *Fellows paying separate subscription.*

The Council have decided that the choice of publications to Fellows in 1947 should be as follows :

(i) Fellows paying the full annual subscription of £3 10s. 0d. to have the choice of receiving any three of the following publications :

- (a) Journal.
- (b) Abstracts A I.
- (c) Abstracts A II.
- (d) Abstracts A III.
- (e) Annual Reports on the Progress of Chemistry.
- (f) Quarterly Reviews.
- (g) Reprints of Lectures appearing in the Journal.

Fellows paying the full annual subscription may obtain, on request, Abstracts printed on one side of the paper on payment of an additional 3s. per section.

Further publications of the Chemical Society can be obtained at schedule prices details of which will be circulated separately to Fellows.

(ii) Fellows paying the reduced annual subscription of £1 15s. 0d. to have the choice of receiving :

- (a) Annual Reports *and* Quarterly Reviews.
- (b) Annual Reports *or* Quarterly Reviews and one other publication selected from (i) (a), (b), (c), (d), and (g).
with the right to purchase Reprints of Lectures at 5s. per annum if not chosen as a free publication.

Unless Fellows indicate that they do not wish to receive them one copy of Abstracts "A" Index and copies of Abstracts "C" (Analysis and Apparatus) are supplied to Fellows receiving one or more sections of the Abstracts.

(b) *Fellows paying joint subscription to Conjoint Chemical Office.*

Quarterly Reviews will be included in the choice of publications. The usual list of schedule prices will be forwarded by the Conjoint Chemical Office in due course.

RESEARCH FUND.

A meeting of the Research Fund Committee will be held in November next. All persons who have received grants, and whose accounts have not been declared closed by the Council, are informed that reports must be received by the Society not later than November 1st, 1946.

Applications for Grants, to be made on forms obtainable from the General Secretary, must be received on or before November 1st, 1946. Applications from Fellows will receive prior consideration.

Attention is drawn to the fact that the income arising from the Donation of the Worshipful Company of Goldsmiths is principally devoted to the encouragement of research in Inorganic and Metallurgical

Chemistry, and that the income from the Perkin Memorial Fund is to be applied to investigations relating to problems connected with the Coal Tar and Allied Industries.

YORKSHIRE COUNCIL FOR FURTHER EDUCATION.

In response to an invitation from the Yorkshire Council for Further Education to appoint two representatives on the Advisory Committee for Chemistry in South and East Yorkshire, the Council of the Society have appointed Professor R. D. Haworth and Dr. Brynmor Jones who have agreed to represent the Society.

ROYAL COMMISSION ON AWARDS TO INVENTORS.

The Royal Commission on Awards to Inventors will begin its public hearings on November 12th, 1946, details of cases to be heard being published in the Daily Cause List. A pamphlet giving instructions to intending claimants, etc., can be obtained from H.M. Stationery Office, or any bookseller, price 2*d.*, by post 3*d.* Reprints of the pamphlet first published in 1929 "Statement of the Principles of Assessment Governing Compensation adopted by the Royal Commission on Awards to Inventors" to which principles in general, the present Commission will have regard, can also be obtained price 6*d.*, by post 7*d.*

ELECTION OF NEW FELLOWS.

The following 101 candidates were elected Fellows of the Chemical Society on September 5th, 1946 :

Harold Adams.	Dennis John Higgons.	Ronald Harry Ottewill.
Ahmed Mohamed Azzam.	Donald Gordon Hodge.	Iain Allan Burnett Pender.
William Barrow Bartley.	Wilfred Frank Holleyman.	Edward George Peppiatt.
Maxwell Craig Barton.	Wilfred George Hutcheson.	Robert Philip.
Richard Allen Baxter.	Ralph Iley.	Harold Piper.
Harold Bellamy.	George John.	Richard Graham Powell.
Michael Bernstein.	Paley Johnson.	S. Balakrishna Rao.
Indubhushan Biswas.	Thomas Young Johnston.	Henry George Rees.
David Stanley Broadbent.	Frederick Arthur Jones.	Douglas Willie Riley.
Clifford Allen Bunton.	Hugh Trefor Jones.	Joseph Alan Roper.
Archie Hector Cameron.	Patrick Gadsden Jones.	George Alan Rose.
Cyril Chaventre.	Peter Hayden Kemp.	Nami Serdaroglu.
Stanley Bartlett Clark.	Avadh Behari Lal.	Willi Georg Schmidt.
Albert Cordes.	Robert Pembruge Langston.	Sean Sheehan.
Mary Corner.	Jeffrey Lee.	Frederick Walter Shipley.
Hamish MacLaren Cranstoun.	Simon Lisowicz.	William Stanley Short.
Goronwy Davies.	Kathleen Lonsdale.	Nazar Singh.
Isadore Davies.	Louis Bernard McGrath.	Jack Smart.
George Thomson Dickson.	Angus Fraser McIntosh.	John Alec Sydney Smith.
William von Eggers Doering.	Alexander Cockburn Maclean.	Edward Peter Spencer.
Donald Edwards.	John Farqueharson Macpherson.	Frank John Steele.
Bedrich Eisler.	William Clark Marshall.	Thea Rodna Stephan.
William Douglas Fordham.	Colin Frederick Mills.	David Stockdale.
Kenneth Edward Fowler.	Clarence Allison Morrell.	Vilem Stross.
Hans Richard Frank.	Arthur Leslie Morris.	Monique George Louise Tabutaut.
K. Ganapathi.	William Morris.	Alfred James Taylor.
William Gibb.	Martin Mugdan.	Ronald John Thompson.
Claude Godet.	Sidney Maurice Neale.	Douglas Leslie Tyler.
Alec Leonard Godier.	Percy John Neate.	Paul Alexander Valton.
Peter Edward Gray.	Hugh Henry Neville.	James Andrew Jamieson Walker.
Raeburn Arthur Gregory.	Peter James Norman.	John Kevin Whelehan.
Jeanne Olive Hanchard.	William Henry Hobbs Norris.	James Matchett Wilson.
Edwin George Edward Hawkins.	John Richard Nunn.	Christopher Cavill Yates.
John Heald.	Gregers Lejf Østrup.	

LIST OF APPLICATIONS FOR FELLOWSHIP.

(Fellows wishing to lodge objections to the election of these candidates should communicate with the Honorary Secretaries before October 31st, 1946. Such objections will be treated as confidential. The forms of application are displayed in the Library.)

***Baker, Philip Basil**, M.P.S. British. 34, Albert Grove, Lenton Sands, Nottingham. Bacteriologist, Research Division, Boots Pure Drug Co. Signed by : John W. Albans, G. Sykes, R. Falconer.

Boggest, William Austin, B.Sc. (Dun.). English. Kynance, 358, Coniscliffe Road, Darlington. Student. Signed by : Wesley Cocker, G. R. Clemo, Richard Raper.

Bracken, Arthur, B.Sc. (Lond.), A.R.I.C. British. 76, Clarendon Road, Colliers Wood, S.W. 19. Senior Laboratory Technician. Signed by : H. Raistrick, J. H. Birkinshaw, S. E. Michael.

***Brand, Boris Peter**, B.A. (Cantab.). British. 33, Castellain Road, Maida Vale, W. 9. Research Chemist. Signed by : Maurice G. Charlton, P. E. Lovering, M. L. Smith.

- Burley, Louis Theodore Le Gay**, B.Sc.Hons. (Lond.), A.R.I.C. British. 10, Berkeley Road, Bournemouth. General Manager of the British Drug Houses, Ltd., at Poole. *Signed by* : Charles Ockrent, R. R. Bennett, Francis H. Carr.
- ***Conway, Brian Evans**, A.R.C.S. British. The Cottage, Warren Road, Farnborough. Research Student. *Signed by* : A. A. Eldridge, J. F. Herringshaw, E. R. H. Jones.
- ***Cumming, Eva Barbara**, B.Sc.Hons. (Glas.). British. The Dell, Giffnock, Glasgow. Demonstrator in Chemistry, Royal Technical College, Glasgow. *Signed by* : F. Rumford, John McLean, H. G. A. Anderson, Ezra Golombok.
- Edmed, Barbara Augusta**, B.Sc. (Lond.). British. 210, Priests Lane, Shenfield. *Signed by* : S. C. Mitchell, H. J. Spriggs, S. O. Rawling.
- ***Fowler, Robert Thomas**, B.Sc. (Wales). British. 37, Silverdale Road, Bexleyheath. Research Metallurgist. *Signed by* : A. H. Howland, F. A. J. Moss, D. Bryce Smith.
- ***Hassall, Kenneth Arnold**, B.Sc. (Lond.). British. 44, Beresford Road, Southall. Research on Antibiotics. *Signed by* : J. G. Maltby, J. C. J. Graham, C. A. Brighton.
- Heberlein, George**, Ph.D. (Zurich). Swiss. Wattwil, Switzerland. Managing Director of Heberlein & Co., A. G., Wattwil. *Signed by* : C. J. Whitelegg, J. C. Withers, Douglas W. Hill, D. Coleman.
- ***Holman, Peter Dennis Hocking**, B.Sc. (Lond.). British. Thornton House, Gorse Wood Road, Hartley, Longfield, Kent. Student. *Signed by* : J. Kenyon, A. Houston, J. W. Smith.
- Holton, Graham Willis**, B.Sc.Hons. (L'pool). British. c/o 4, Lindon Street, Lancaster. Development Chemist. *Signed by* : R. D. Williams, A. McGookin, W. B. Whalley.
- Jain, Bimal Das**, B.Sc.Hons. and M.Sc. (Punjab). Lecturer in Chemistry, University of Delhi; Chemical Adviser to the Chief Commissioner, Delhi, 1942—1943. Indian. Department of Chemical Technology, Imperial College, S.W. 7. Post-graduate student. *Signed by* : Alfred C. Egerton, D. M. Newitt, G. J. Minkoff.
- Jenkins, Philip Aldwyn**, B.Sc. (Lond.). British. 10, Sussex Place, Hyde Park, W. 2. Analytical Chemist. *Signed by* : W. D. Williams, J. Ormston, H. B. Watson.
- Jones, Karl Bryce Warner**, B.Sc. and Ph.D. (Lond.), A.R.C.S., A.R.I.C. British. 109, Clarendon Drive, Putney, S.W. 15. Chief Chemist, British Fermentation Products, Ltd. *Signed by* : Alex. Findlay, H. J. T. Ellingham, R. Leslie Collett.
- Kuenzli, Robert Albert Conrad**, B.Sc. (Lond.), A.R.C.S., D.I.C. British. 28, Plantation Grove, Bill Quay, Gateshead 10. Industrial Research Chemist, Synthetic Resins and Plastics. *Signed by* : F. G. Palmer, Robert Wilson, H. L. Hutton.
- Lecomber, Leslie Vincent**, B.Sc. (Manc.), A.R.I.C. British. 25, Manor Road, Teddington. Research Chemist. *Signed by* : T. A. Pressley, W. H. J. Vernon, D. V. N. Hardy.
- ***Mamalis, Patrick**, B.Sc.Hons. (Lond.). British. 253, Bellenden Road, S.E. 15. Research Chemist. *Signed by* : D. H. Hey, J. C. D. Brand, P. C. Crofts.
- ***Millen, Douglas James**, B.Sc. (Lond.). British. 23, Woodland Gardens, Muswell Hill, N. 10. Assistant Lecturer, University College. *Signed by* : C. K. Ingold, E. D. Hughes, S. Sugden.
- Morgan, Edward Norman**, B.Pharm. (Wales), A.R.I.C. British. 38, Ritherdon Road, S.W. 17. Research Chemist. *Signed by* : H. Raistrick, J. H. Birkinshaw, S. E. Michael.
- Nicholson, Andrew**. British. 9, Rothbury Gardens, Isleworth. Chief Chemist, The Pyrene Company, Ltd. *Signed by* : S. W. Johnson, W. J. Clifford, Keith Ebbutt.
- ***Nuttall, James Robert Lewis**. British. Woodside House, Bunkers Hill Road, Romiley, nr. Stockport. Student. *Signed by* : Alex. R. Todd, N. B. Chapman, R. Hull.
- ***Page, Delia Margaret**, B.Sc.Hons. (Lond.). English. 15, Fulham High Street, S.W. 6. Research Chemist at Messrs. Fredk. Boehm, Ltd., Plaistow, E. 13. *Signed by* : A. A. Houghton, P. J. Hawkins, H. R. Soper.
- Rees, Harold Anthony**, M.Sc. (Lond.). British. 53, Lincoln Avenue, Whitton. Senior Chemistry Lecturer, The Technical College, Kingston-on-Thames. *Signed by* : A. Hickling, A. Jackman, L. Hunter.
- ***Reynolds, Joan Anne**, B.Sc. (Lond.). British. 135, Salisbury Road, Welwyn Garden City. Organic Chemist. *Signed by* : S. C. Mitchell, C. W. Picard, E. Reid.
- Rieder, Viliam**, B.Sc. (Lond.). Czechoslovakian. 24, Caledonia Street, King's Cross, N. 1. Works and Research Chemist at Putridomors Company. *Signed by* : Jonas Bondi, Alfred Herzka, H. L. Lehmann.
- ***Salter, John Austin**, B.A. (Oxon), Scholar of Lincoln College, Oxford. British. 91, Topstreet Way, Harpenden. Research Student. *Signed by* : N. V. Sidgwick, Harry Irving, L. E. Sutton.
- Shaw, Tom Cartwright**, M.Sc. and Ph.D. (Q.U.B.), A.R.I.C. British. 13, Chichester Road, Belfast, Northern Ireland. Senior Assistant Lecturer in Department of Chemistry, Queen's University, Belfast. *Signed by* : A. R. Ubbelohde, H. Graham, R. C. Pink.
- Swain, Geoffrey**, B.Sc. and Ph.D. (Lond.), A.R.I.C. British. 3, Leslie Grove, Timperley, Altrincham. Research Chemist, I.C.I., Ltd., Dyestuffs Division, Blackley, Manchester. *Signed by* : A. D. Ainley, E. Hoggarth, F. L. Rose.
- Waring, Wilson Shaw**, M.Sc. (Manc.). British. Birch Croft, Dickenson Road, Manchester 14. Chemist. *Signed by* : H. Gudgeon, Edwin A. Shearing, R. J. W. Reynolds.

UNDER SPECIAL PROVISION APPERTAINING TO CANDIDATES RESIDENT ABROAD.

- Costa, Ruy Gustavo Couceirs da**, D.Sc. (Coimbra). Portuguese. Chemistry Department, The University, Coimbra. Professor and Director of the Chemical Laboratory of the Faculty of Science. *Signed by* : R. A. Morton.
- Damas, Leon**, Licencié en Sciences cons. Impérieuses (École Consulaire) Mons. Belgium. 62, Rue de l'Eglise, Mont-sur-Marchienne, Belgium. Professor. *Signed by* : Leslie H. Lampitt.
- Giordani, Francesco**, Dr.Chem. (Naples). Italian. Istituto Chimico, Università, via Mezzocannone 4, Napoli, Italy. Director of the Chemical Institute, The University, Naples. *Signed by* : Ian Heilbron.
- Grifols, Victor**, Bachelor in Chemical Science and in Pharmacy (Barcelona). Spanish. Rambla Cataluna 102, Barcelona, Spain. Technical Director of Laboratories Grifols S.A., Barcelona. *Signed by* : Denis I. Duveen.
- Hobbs, Alan Keith**, Diplomas Applied Chemistry and Metallurgy, Melbourne Technical College, A.R.I.C. British. 40, Seymour Road, Elsternwich Street, Melbourne, Australia. Factory Manager. *Signed by* : A. Keith Jack.

* Reduced annual subscription.

PAPERS RECEIVED

List of papers received between August 10th and September 17th, 1946. (This list does not include the titles of papers which have been read at a Scientific Meeting or which have appeared in the *Journal*.)

- "The kinetics of halogen addition to unsaturated compounds. Part X. Styrene, stilbene, and derivatives." By I. TING and P. W. ROBERTSON.
- "The kinetics of halogen addition to unsaturated compounds. Part XI. The halogeno-ethylenes." By B. E. SWEDLUND and P. W. ROBERTSON.
- "Some amino-derivatives of dihydro- β -quinindene and tetrahydroacridine." By V. A. PETROW.
- "1 : 1 : 1-Trichloro-2 : 2-di-(4- ω -carbomethoxyphenyl)ethane." By I. E. BALABAN and F. K. SUTCLIFFE.
- "A new method of preparing amidine salts." By J. H. MACGREGOR.
- "The acylation of long chain aliphatic primary amines." By J. H. MACGREGOR and F. WARD.
- "A problem in the styryl-pyridine series." By R. ROYER.
- "The preparation and properties of thionaphthindoles." By C. E. DALGLIESH and F. G. MANN.
- "Note on the preparation and properties of thiol-esters." By C. E. DALGLIESH and F. G. MANN.
- "The synthesis of *N*-methyl- β -(3 : 4-dihydroxyphenyl)serine (adrenaline carboxylic acid)." By C. E. DALGLIESH and F. G. MANN.
- "The preparation and properties of 2-substituted *iso*arsindolines and of *as*-*spiro*bis*iso*arsindolinium salts." By D. R. LYON, F. G. MANN, and (in part) G. H. COOKSON.
- "Synthesis of nuclear amidino-derivatives of 5-aminoacridine." By A. A. GOLDBERG and W. KELLY. (Note by F. HAYNES.)
- "Some $\alpha : \beta : \beta$ -triarylacrylonitriles, $\alpha : \beta : \beta$ -triarylacrylic acids, and their derivatives." By NG. PH. BUU-HOI and J. LECOQ.
- "The infra-red spectra of solid and liquid alkyl phenols." By T. A. KLETZ and W. C. PRICE.
- "The chemistry of the pyrrocolines. Part V. The action of Grignard reagents and of iodine on 3-aceto-2-phenylpyrrocoline." By E. T. BORROWS and D. O. HOLLAND.
- "The chemistry of the pyrrocolines. Part VI. The synthesis of pyrrocoline-2-carboxylic acid: a new route to pyrrocoline." By E. T. BORROWS and D. O. HOLLAND.
- "Nucleotides. Part I. Muscle adenylic acid and adenosine diphosphate." By J. BADDILEY and A. R. TODD.
- "The formation of phenanthroxazole by the action of diazomethane on phenanthraquinoneimine." By A. SCHONBERG and W. I. AWAD.
- "The deamination of 2 : 6-dichloro-4-nitroaniline." By D. RIDGE.
- "Preparation of 4 : 4'-dicyanobenzaldazine." By D. RIDGE.
- "Studies in the detoxication of catalyst poisons. Part V. Thiophen." By E. B. MAXTED.
- "Kinetics of nitrous gas absorption in aqueous nitric acid. Part I. Measurement of the rate of reaction." By K. G. DENBIGH and A. J. PRINCE.
- "Kinetics of nitrous gas absorption in aqueous nitric acid. Part II. The theory of absorption in packed towers." By K. G. DENBIGH.
- "Studies on phosphorylation. Part III. Further observations on the reaction of phosphites with polyhalogen compounds in presence of bases and its application to the phosphorylation of alcohols." By F. R. ATHERTON and A. R. TODD.
- "Attempts to find new antimalarials. Part XXV. Some derivatives of 3 : 4 : 2' : 3'-pyridoacridine substituted in the 2-position." By W. C. HUTCHISON and W. O. KERMACK.
- "Thiohydantoin. Part I. Preparation of 5 : 5-disubstituted-2 : 4-dithiohydantoin from the corresponding ketones." By H. C. CARRINGTON.
- "Thiohydantoin. Part II. Conversion of 5 : 5-disubstituted-2 : 4-dithiohydantoin to the corresponding monothiohydantoin." By H. C. CARRINGTON.
- "Note. The preparation of trichloroacetic acid." By G. D. PARKES and R. G. W. HOLLINGSHEAD.
- "On the suitability of parasantonide for asymmetric photolysis." By S. MITCHELL and E. J. Y. SCOTT.
- "Note. Trityl derivatives of xylofuranose. 2-Acetyl-3 : 5-ditryl and 2-methyl-3 : 5-ditryl methylxylofuranoside." By R. J. MCILROY.
- "Note upon the preparation of mono and bis mustard gas compounds with diethyl dithiocarbamate." By R. A. PETERS and R. W. WAKELIN.
- "The crystal structure of pentaerythritol tetranitrate." By A. D. BOOTH and F. J. LLEWELLYN.
- "The kinetics of the reaction between copper and iodine in various solutions. Part II. Solutions of iodine in organic solvents." By L. L. BIRCUMSHAW and M. H. EVERDELL.

- "The kinetics of reaction between tin and solutions of bromine and iodine in organic solvents." By A. F. TROTMAN-DICKENSON and E. J. F. JAMES.
- "The crystal structure of strontium azide." By F. J. LLEWELLYN and F. E. WHITMORE.
- "The crystal structure of *p*-dinitrobenzene." By F. J. LLEWELLYN.
- "Synthetic antimalarials. Part XVI. 4-Dialkylaminoalkylaminoquinazolines. Variation of substituents in the 6- and 7-positions." By N. B. CHAPMAN, G. M. GIBSON, and F. G. MANN.
- "Synthetic antimalarials. Part XIV. Some 2-arylamino-4-aminoalkylaminoquinazolines." By F. H. S. CURD, J. K. LANDQUIST, and F. L. ROSE.
- "Synthetic antimalarials. Part XV. Some aryloxy- and arylthio-dialkylaminoalkylaminopyrimidines." By F. H. S. CURD, (Miss) M. I. DAVIS, E. HOGGARTH, and F. L. ROSE.
- "Attempts to find new chemotherapeutic amidines. Part VIII. Some aliphatic monoamidines." By G. NEWBERY and W. WEBSTER.
- "Acenaphthene Series. Part II. Bromo-, nitro-, and amino-derivatives of 3:4-*ditert.*-butylacenaphthene, and some brominated thioindigoid dyes. Novel ace-substitution." By A. T. PETERS.
- "A reaction of certain diazosulphonates derived from β -naphthol-1-sulphonic acid. Part XXI. Derivatives of 2':4'-dinitrobenzene-2-naphthol-1-diazosulphonate." By F. M. ROWE and W. OSBORN.
- "The mechanism of aromatic side-chain reactions with special reference to the polar effects of substituents. Part XIII. Kinetic examination of the reaction of aryl *isocyanates* with methyl alcohol." By J. W. BAKER and J. B. HOLDSWORTH.
- "Colchicine and related compounds. Part VI. 3:4:5:6-dibenz- $\Delta^{1:3:5}$ -*cycloheptatriene*." By J. W. COOK, G. T. DICKSON, and J. D. LOUDON.
- "The constitution of a by-product from the preparation of trichloropyrimidine from barbituric acid." By F. E. KING, T. J. KING, and P. C. SPENSLEY.
- "New potential chemotherapeutic agents. Part VI. Derivatives of 1:3-diaza-acridine." By F. E. KING and T. J. KING.
- "Reactions in the presence of alkali. Part I. The reduction of ketones by primary alcohols." By G. H. HARGREAVES and L. N. OWEN.
- "Reactions in the presence of alkali. Part II. The scission of ricinoleic acid." By G. H. HARGREAVES and L. N. OWEN.
- "Reactions in the presence of alkali. Part III. The scission of $\alpha\beta$ -ethylenic carbinols." By G. H. HARGREAVES and L. N. OWEN.
- "A study of the properties of fluorine-substituted 5-aminoacridines and related compounds. Part I. The monofluoro-5-aminoacridines." By J. H. WILKINSON and I. L. FINAR.
- "The formation of some benz-1:3-thiazine derivatives by the reduction of benzisothiazoles." By J. S. INGHAM and (the late) E. W. McCLELLAND.
- "Oxidations and dehydrogenations with selenium dioxide." By G. M. BADGER.

THE CHEMICAL SOCIETY

SCIENTIFIC MEETINGS DURING DECEMBER.

LONDON.

Thursday, December 5th, 1946, at 7.30 p.m.

Tilden Lecture, **Macromolecules Synthesised by Micro-organisms**, by Professor M. Stacey, D.Sc., Ph.D., F.R.I.C., to be delivered at Burlington House.

Wednesday, December 18th, at 7.30 p.m.

Liversidge Lecture, **Some Problems in the Separation of Isotopes**, by Professor Harold C. Urey, D.Sc., Ph.D., to be delivered at the Royal Institution, Albemarle Street, London, W.1.

EDINBURGH.

Thursday, December 19th, 1946, at 5.30 p.m.

Liversidge Lecture and Official Meeting of the Society. **Some Problems in the Separation of Isotopes**, by Professor Harold C. Urey, D.Sc., Ph.D., to be held in the Biochemistry Lecture Theatre of the University, Teviot Place.

EIRE.

Monday, December 9th, 1946, at 7.30 p.m.

Lecture, **Isotopes**, by Professor Harold C. Urey, D.Sc., Ph.D., to be held in the Department of Chemistry, Science Buildings, University College, Upper Merrion Street, Dublin.

GLASGOW.

Friday, December 6th, 1946, at 6.30 for 7 p.m.

Ramsay Chemical Dinner to be held in Marlborough House.

LEEDS.

Monday, December 16th, 1946, at 6.30 p.m.

Lecture, **Isotopes**, by Professor Harold C. Urey, D.Sc., Ph.D., to be held in the Chemistry Lecture Theatre of the University.

LIVERPOOL.

Wednesday, December 4th, 1946, at 7 p.m.

Scientific Film to be shown at Radiant House, Bold Street.

Friday, December 6th, 1946, at 6.30 p.m.

Lecture, **Atomic Energy**, by Dr. J. P. Baxter, O.B.E., to be held in the Lecture Theatre of the University.

Joint meetings with the local sections of the Royal Institute of Chemistry, Society of Chemical Industry and the British Association of Chemists.

MANCHESTER.

Thursday, December 12th, 1946, at 7 p.m.

Meeting for the reading of original papers. To be held in the Chemistry Department of the University.

NORTHERN IRELAND.

Tuesday, December 10th, 1946, at 8 p.m.

Lecture, **Isotopes**, by Professor Harold C. Urey, D.Sc., Ph.D., to be held in the Great Hall of Queen's University, Belfast.

PROCEEDINGS
OF THE
CHEMICAL SOCIETY

**Minutes of a
SCIENTIFIC MEETING**

held at Burlington House, Piccadilly, W.1, on Thursday, October 3rd, 1946, at 7.30 p.m.

The President, PROFESSOR C. N. HINSHELWOOD, Sc.D., F.R.S., was in the Chair.

MINUTES.

The Minutes of the Scientific Meeting held jointly with the Oxford University Alembic Club at the Physical Chemistry Laboratory, South Parks Road, Oxford, on Thursday, 6th June, 1946, and of the Extraordinary General Meeting held at Burlington House, on Thursday, July 25th, 1946, were taken as read and were confirmed, and signed.

FORMAL ADMISSION OF FELLOWS.

The following were admitted Fellows of the Society : L. A. K. Staveley, A. G. White, J. A. E. Moy, J. E. Cave-Brown-Cave, G. John, Hugh H. Neville, M. T. Clark, J. D. Dunitz, I. M. Dawson, G. H. Watson, C. Chaventre, J. S. Bone, L. A. Mounter, D. W. Turner, H. J. G. Hayman, A. R. Aikman.

SCIENTIFIC COMMUNICATIONS.

The following papers were read and discussed :

“The Crystal Structure of Pyrene. A Quantitative X-ray Investigation.” By J. M. Robertson and J. G. White.

“The Redistribution and Desorption of Adsorbed Gases.” By R. F. Barrow, C. J. Danby, J. E. Davoud, C. N. Hinshelwood, and L. A. K. Staveley.

**Minutes of a
SCIENTIFIC MEETING**

held at Burlington House, Piccadilly, W.1, on Thursday, October 17th, 1946, at 7.30 p.m.

PROFESSOR J. W. COOK, D.Sc., F.R.S., Vice-President was in the Chair.

MINUTES.

The Minutes of the Scientific Meeting held on Thursday, October 3rd, 1946, were read, and were confirmed and signed.

FORMAL ADMISSION OF FELLOWS.

The following were admitted Fellows of the Society : E. N. Jenkins, R. Roberts, D. D. Libman, I. D. Morton, A. Spaul, J. H. Shelton, R. H. Hall, G. Minkoff, L. Crombie.

SCIENTIFIC COMMUNICATIONS.

The following papers were read and discussed :

“Pyrazine Derivatives. The Structure of Deoxyaspergillic Acid.” By R. A. Baxter, G. T. Newbold, and F. S. Spring.

“Researches on Acetylenic Compounds: Acetylenic Hydroxy-acids and their Reactions.” By L. J. Haynes, E. R. H. Jones, and M. C. Whiting.

ADDITIONAL SCIENTIFIC MEETING

" A NEW NOTATION FOR ORGANIC CHEMISTRY "

Under the Chairmanship of DR. G. ROCHE LYNCH, President of the Royal Institute of Chemistry, a joint meeting of the Chemical Society, the Royal Institute of Chemistry, the Society of Chemical Industry and the Bureau of Abstracts, was held on Monday, October 21st, 1946, at 6 p.m., at the London School of Hygiene and Tropical Medicine, Keppel Street, W.C.1.

The occasion was a lecture delivered by G. Malcolm Dyson, M.A., Ph.D., F.R.I.C., M.I.Chem.E., on " A New Notation for Organic Chemistry." Dr. Dyson described the principles of a new ciphering system which enables the structure of organic substances to be represented in a concise and informative manner. The lecture was attended by a very large and appreciative audience and the vote of thanks proposed by Dr. L. H. Lampitt, President of the Society of Chemical Industry and Chairman of the Bureau of Abstracts, and seconded by Dr. R. P. Linstead, a Vice-President of the Chemical Society, was carried with acclamation.

OFFICIAL ANNOUNCEMENTS

DEATHS.

The Council regret to announce the deaths of the following Fellows :

	Elected.	Died.
Hector Robert Adam (Benoni)	Oct. 16th, 1941.	Jan. 1944.
Thomas George David Mills (Blackburn, Aus.)	Jan. 20th, 1944.	Mar. 12th, 1944. (Missing presumed killed) 1942.
Charles Emerique Szarvasy (Hungary)	Feb. 16th, 1909.	

ACKNOWLEDGMENTS.

The thanks of the Council have been conveyed to Mr. T. McLachlan for a gift under Deed of Covenant to the publications fund, to the Chemical Council for an interim grant of £1,000 towards the cost of publications, to the Association of British Chemical Manufacturers for a donation under Deed of Covenant, and to Mr. L. C. W. Jenkins for a gift of the Society's publications.

FARADAY LECTURER, 1947.

Sir Robert Robinson, M.A., LL.D., D.Sc., P.R.S., Past President of the Society, has accepted the invitation of Council to deliver the Faraday Lecture next year.

The Faraday Lectureship was founded in 1867 to commemorate the name of Michael Faraday, who was elected a Fellow of the Society on the 4th January, 1842, and was a Vice-President. He died in 1867, and in 1869, Jean Baptiste Andre Dumas delivered the first Faraday Lecture. It is normally delivered every three years and the second lecture was given by Stanislaw Cannizzaro in 1872. The list of Faraday Lecturers includes, Hofmann, Wurtz, Helmholtz, Mendeléeff, Rayleigh, Ostwald, Fischer, Richards, Arrhenius, Millikan, Willstätter, Bohr, Debye, Rutherford and Langmuir.

The Council has decided that the 1947 Faraday Lecture by Sir Robert Robinson shall be delivered on July 16th, 1947, the second day of the Society's Centenary Celebrations. Details of time and place will be notified to Fellows in due course.

THE ROYAL INSTITUTE OF CHEMISTRY.

The following letters have been exchanged between the Presidents of the Royal Institute of Chemistry and of the Society :

From Royal Institute of Chemistry to the Chemical Society :—

*The President,
The Chemical Society,
Burlington House, W.1.*

September 18th, 1946.

DEAR PROFESSOR HINSHELWOOD,

The Officers and Council of the Royal Institute of Chemistry have learned with great pleasure and satisfaction of the intention of the Chemical Society to celebrate in July, 1947, the Centenary of its foundation.

As British chemists, we are justly proud of having in our country the oldest chemical society in the

world and one which throughout its existence has taken a leading part in fostering the progressive development of the science. As members of the Institute we are glad to remember that our own organisation owes its origin to the initiative of a group of Fellows of the Chemical Society, and to recognise the advantages that we have since enjoyed through working in association with the Society for the advancement of the science and profession of chemistry for the benefit of the community.

I would assure you that, if there are any directions in which the Institute can help towards ensuring the success of the forthcoming Centenary Celebrations of the Society, my Council will be happy to co-operate in every possible way.

Yours sincerely,
(signed) G. ROCHE LYNCH,
President.

From the Chemical Society to the Royal Institute of Chemistry :—

*The President,
Royal Institute of Chemistry,
30, Russell Square, W.C.1.*

September 20th, 1946.

DEAR DR. ROCHE LYNCH,

I have received with very great pleasure your letter of the 18th September, the contents of which I will communicate to the Council of the Chemical Society and which I know they will hear with the very greatest satisfaction.

I will certainly bear in mind your kind offer to co-operate in any way which may contribute to the success of next year's Centenary Celebrations. The numerous common membership of our two bodies will naturally facilitate the necessary liaison.

Your generous words about the contributions of the Chemical Society in the initiation of the Royal Institute and in connexion with chemistry in general are very much appreciated.

Yours sincerely,
(signed) C. N. HINSHELWOOD,
President.

MEETING OF COUNCIL.

A meeting of the Council was held on Thursday, October 3rd, 1946.

The report of the Publication Committee (July 15th) was adopted. The report contained the proposal that the lay-out of the *Journal* cover be altered as from January, 1947. One result of the proposed arrangement is that the names of members of the Publication Committee will appear on the cover.

It was unanimously agreed to invite Sir Robert Robinson, D.Sc., P.R.S., to deliver the Faraday Lecture during the Centenary Celebrations of the Society.

The report of the Joint Library Committee (September 25th) was received and in adopting it authority was given for the purchase of a number of books listed in the Recommendations Register. The report also contained information about the recommencement of the publication of certain scientific periodicals, etc., in Germany and Austria.

A letter providing details of the distribution of the cost of maintenance of the Library during 1945 and stating the amounts contributed by The Chemical Society, the Royal Institute of Chemistry, the Society of Chemical Industry, and other contributing Societies was received.

The report of the Finance and General Purposes Committee (July 16th) accepting on behalf of the Society a new scheme for the Superannuation of the Society's staff was confirmed. The proposed scheme has been considered in collaboration with a number of other scientific societies.

The report of the third meeting of the Centenary Celebrations Executive Committee (September 5th) was received and adopted. Arrangements for joint action on a number of matters of common concern to the Celebrations and the Eleventh International Congress of Pure and Applied Chemistry have been made by a Collaboration Committee. A provisional programme for the celebrations, which will include an exhibition, has been prepared and a provisional list of specially invited guests considered.

A letter from the President of the Royal Institute of Chemistry offering the co-operation of the Institute in any directions that might help to ensure the success of the Centenary Celebrations was received with great pleasure and satisfaction. A reply by the President of the Society had been made. (See above.)

An interim report from the Advisory Committee on the Dyson System of Ciphering Chemical Compounds was received and it was decided to take action on the lines recommended in the report by giving

scientific approval to Dr. Dyson's proposals, by asking the International Union of Chemistry to discuss the Dyson system and by drawing the Committee's proposals to the attention of the Chemical Council.

31 Candidates for Fellowship were elected Fellows of the Society.

Certain formal and financial items were also transacted.

ELECTION OF NEW FELLOWS.

The following 31 candidates were elected Fellows of the Chemical Society on the 3rd October, 1946 :

Kenneth Bernard Alberman.	Stanley James Hart.	Hans Schweitzer.
Donald Barby.	Osman Mohamed Mansour Hilal.	Dewi Brynmor Scully.
Mervyn Henry Beeby.	Hsin-Min Huang.	Harold Hugh Smith.
Freshfield Leonard Cann.	David Philip Jenkins.	Allan James Barnard Spaul.
Nigel George Clark.	Stanislaw Krauze.	Leonard B. Spector.
Dennis John Cosgrove.	Kariamanikkam Scrinivasa Krishnan.	Eric Theal Stewart.
James McEleney Doherty.	Herbert Mills.	Gertraud Anna Stranz.
Francesca Mary Garforth (Mrs.).	Margaret Alison Murray.	Edward Raymond Ward.
William Nikola Gates.	Roger Parsons.	Alma Mary Beryl Whitaker.
William Fred Gerrard.	Francis Joseph Thomas Poole.	George Alexander Wilson.
Geoffrey Frederick Harrison.		

MEETINGS OUTSIDE LONDON.

EDINBURGH.

"Heavy Chemicals," by Dr. J. P. Baxter, F.R.I.C.

A joint meeting of the Society with the Local Sections of the Royal Institute of Chemistry and Society of Chemical Industry was held at 7.30 p.m. on October 10th, 1946, in the North British Station Hotel, Edinburgh, Professor G. F. Marrian, F.R.S., being in the chair.

Dr. Baxter, Research Director of the General Chemicals Division of I.C.I., Ltd., gave a most interesting lecture in which he dealt with the manufacture of sulphuric acid, hydrochloric acid, chlorine and caustic soda, from the point of view of the manufacturing processes used at the present time, and the uses of some of these substances in new directions. Professor Nisbet and Messrs. MacIntyre, Maclellan, Cameron and Campbell took part in the discussion, and a vote of thanks was moved by Mr. Elliot-Dodds and carried with enthusiasm.

NEWCASTLE AND DURHAM.

A meeting for the reading of original papers was held on Friday, October 11th, at King's College, Newcastle-upon-Tyne, Professor J. W. Cook, a Vice-President of the Society, taking the Chair. The following papers were read and discussed :

- (a) "The Action of Liquified Ammonia on Ammonium Sulphate," by J. W. R. Rayner. Illustrated by cinematograph film.
- (b) "The Chemistry of γ -Picoline. Part I," by P. L. Belshaw and G. R. Clemo.
- (c) "The Hydrogenation of Furfural to Furfuryl Alcohol and Sylvan," by J. G. M. Bremner and R. K. F. Keeeyes.
- (e) "The Formation of the Higher Alcohols in the Methanol Process," by G. R. Clemo and A. Slansky.

The Chairman conveyed the thanks of the meeting to those who had presented the papers and a vote of thanks to the Chairman proposed by Dr. Applebey and seconded by Professor Clemo was carried with acclamation.

SOUTHAMPTON.

"Chemical Aspects of Work on Atomic Fission," by Professor H. J. Emel us, D.Sc., F.R.S.

A Joint Meeting of the Chemical Society, the Portsmouth and District Chemical Society, and the University College of Southampton Chemical Society was held at the Municipal College, Portsmouth, on Thursday, October 17th, 1946, at 7 p.m. The Chair was taken by Dr. C. G. Lyons, Vice-Principal of the Municipal College. Professor Emel us, before a very large audience, gave an account of recent work on nuclear fission and the uses of nuclear energy viewed from the standpoint of the chemist, which was greatly appreciated, and a vigorous discussion followed. A vote of thanks, carried with acclamation, was proposed by Mr. C. M. Bere and seconded by Dr. S. H. Harper.

LIST OF APPLICATIONS FOR FELLOWSHIP.

(Fellows wishing to lodge objections to the election of these candidates should communicate with the Honorary Secretaries before November 30th, 1946. Such objections will be treated as confidential. The forms are displayed in the Library.)

- ***Barry, Peter James Seymour**, British. 53, Waverley Avenue, South Chingford, E.4. Junior Chemist. Signed by : H. L. Pearman, E. R. Herz, P. G. Marshall.
- ***Bassil, Gerald Torkington**, B.Sc. (Manc.). British. Brook Cottage, Liverpool Road, Prescott. Chemist. Signed by : J. G. Cockburn, G. W. Groves, J. Southwood.
- Battersby, Albert**, B.Sc.Hons. (Lond.). British. 65, Cecil Park, Pinner. Assistant Editor, Society of Chemical Industry. Signed by : T. W. Jones, F. P. Dunn, Wm. Wardlaw.
- ***Bell, David Roland Wagstaffe**, Inter.B.Sc. (Lond.). British. 8, Holyrood Road, St. James, Northampton. Student. Signed by : W. Siddall, J. A. Baker, D. Plews.
- Bennett, John Atkinson**, Ph.C. British. c/o Genic Ltd., Milford, Derby. Assistant Works Manager. Signed by : John H. Hunt, M. H. Tankard, L. I. Woolf.
- ***Butt, Leonard Thomas**, B.Sc. (Lond.), A.R.I.C. British. 20, Lewis Avenue, Blackley, Manchester 9. Analytical research chemist. Signed by : Norman Strafford, Joe H. Coucill, D. Myles.
- ***Carter, David George**, B.Sc. (Lond.). British. Bcrrynarbor, Mottingham Lane, Mottingham, S.E.9. Assistant Chemist, East Africa Industrial Management Board, P.O. Box 1862, Nairobi, Kenya. Signed by : E. M. Gutmann, R. L. Denyer, R. J. Harris.
- Crosland, Eric Bentley**, M.Sc. (Leeds), A.R.I.C., Diploma in Dyeing (Leeds). British. Birch Vale Printworks, Birch Vale, nr. Stockport. Works Chemist. Signed by : Joseph E. Faraday, W. Shaw, J. S. Heaton.
- ***Davies, John Tasman**, M.Sc.Hons. (N.Z.). British. 18, Torrington Square, W.C. 1. Research Chemist in Davy Faraday Laboratory. Signed by : Eric K. Rideal, Kathleen Lonsdale, J. W. H. Oldham.
- Day, James Eric**, M.P.S. British. 16, Murchison Road, Hoddesdon. Technical Adviser to Messrs. Sharp and Dohme, Ltd. (Manufacturing Chemists), Hoddeston. Signed by : W. E. Willmott, D. Ridge, H. Lambourne.
- Dryden, Robert Pickeman**, B.Sc. (St. Andrews). British. 23, Connaught Road, Teddington. Research Chemist for Barry Ostlere and Shepherd, Kirkcaldy. At present carrying out research at Paint Research Station, Teddington. Signed by : D. B. Powell, G. L. Holbrow, H. K. Dean.
- Fletcher, John Molyneux**, M.A.(Oxon), Ph.D. (California), late Commonwealth Fund Fellow. British. c/o J. and P. Coates, Ltd., 155, St. Vincent Street, Glasgow, C. 2. Head of Research, J. and P. Coates, Ltd. Signed by : Alfred Egerton, F. P. Dunn, Julian M. Leonard.
- Garside, James Eric**, Ph.D. (Lond.), M.Sc.Tech. (Manc.), A.R.I.C. British. Northampton Polytechnic, St. John's Street, E.C. 1. Head of the Department of Applied Chemistry. Signed by : J. R. I. Hepburn, J. Kenyon, Ernest A. Rudge.
- ***Garwood, Mavis Pauline**, B.Sc. (Lond.). British. St. Catherine's, Theydon Park Road, Theydon Bois, Essex. Research Assistant. Signed by : H. Holness, B. Dudley Sully, M. F. Carroll.
- Geake, Frank Henry**, M.Sc. (Bristol), A.R.I.C. British. c/o Customs Department, Singapore, Malaya. Colonial Chemical Service. Signed by : H. J. T. Ellingham, R. Leslie Collett, G. Roche-Lynch.
- Glazer, Joseph**, B.Sc. (Lond.). British. 186b, Mile End Road, E. 1. Research Assistant at Bedford College, N. W. 1. Signed by : D. M. Hall, Mary S. Lesslie, M. M. Jamison.
- ***Gorringe, Brian Stanley**, B.Sc. (Lond.), A.R.C.S., A.R.I.C. British. 4, Hatherley Crescent, Sidcup. Research Chemist. Signed by : Leslie O. Butler, P. A. Robins, H. B. Henbest.
- Gyani, Bishwanath Prasad**, M.Sc. and Ph.D. (Patna). Indian. Chemistry Department, University College, W.C. 1. Research Student. Signed by : S. Sugden, Henry Terrey, L. F. Gilbert.
- Haddow, Alexander**, M.B., Ch.B., M.D., D.Sc., Ph.D. (Edin.). British. Chester Beatty Research Institute, Royal Cancer Hospital (Free), Fulham Road, London, S.W. 3. Professor of Experimental Pathology, University of London. Director, Chester Beatty Research Institute. Signed by : G. A. R. Kon, C. W. Shoppee, Edna M. F. Roe.
- ***Hills, Graham John**, B.Sc.Hons. (Lond.). English. 32, Westcliff Drive, Leigh-on-Sea, Essex. Research Student and Demonstrator. Signed by : D. J. G. Ives, F. Barrow, R. W. Pittman.
- Jackman, George William Grahame**. British. 8, Ingram Way, Greenford. Chemist at Evan Williams Co., Ltd., Perivale. Signed by : W. M. Seaber, R. A. Rabnott, Percy Edgerton.
- Janz, George John**. B.Sc.Hons. (Manitoba), M.A. and Ph.D. (Toronto). Canadian. Chemistry Department, University College, Gower Street, W.C. 1. Imperial Chemical Industries Research Fellow in Chemistry. Signed by : C. K. Ingold, C. A. Bunton, J. N. E. Day.
- Jelinek, Bohdan**, D.Sc. and M.D. (Brno). Czechoslovak. Ustav Kvasne Chemie, Praha XIX-1905, Czechoslovakia. Professor of Chemistry of Fermentation in Prague University. Signed by : R. H. Hopkins, M. Stacey, L. L. Bircumshaw.
- ***Lee, Neville Douglas**. British. 89 Stanhope Drive, Horsforth. Third Year Honours Colour Chemistry Student at Leeds University. Signed by : Frederick M. Rowe, F. R. Goss, W. A. Wightman.
- Lilley, Harold Samuel**, B.Sc.Hons. (Birm.). British. Savernake, Upton Court Road, Slough. Research Chemist, Imperial Chemical Industries, Ltd. Signed by : Arthur K. Mills, H. Bassett, G. H. Cheesman.
- Low, John Alexander**, M.Sc. (Lond.), A.M.I.Chem.E. British. 32, Manchester Street, W. 1. Works Manager. Signed by : J. R. Booer, F. Bergel, A. Cohen.
- ***McAllister, Ronald Andrew**. British. 150 Hill Street, Charing Cross, Glasgow. Senior Technician, Bio-chemical Laboratory, Glasgow Royal Infirmary. Signed by : James D. Loudon, John Robertson, A. B. Crawford.
- ***McNaughton, Francis Finlay**, B.Sc. (Edin.). British. 134, Westbourne Avenue, Hull. Works Chemist, British Cod Liver Oils (Hull and Grimsby), Ltd., Hull. Signed by : E. G. V. Percival, Neil Campbell, Christina C. Miller.
- ***Mayhew, Geoffrey**, B.Sc.Hons. (Sheffield). English. 77, Park Street, Wombwell. Research student in the University of Sheffield. Signed by : R. D. Haworth, Neville Smith, Brynmor Jones.
- ***Nechvatal, Antony**, B.Sc.Hons. (Lond.). British. 47, Templar's Crescent, Finchley, N. 3. Research Student. Signed by : W. Gerrard, W. A. Smeaton, R. W. West.

- ***Peal, William John**, B.Sc.Hons. (Lond.). British. 25, Canterbury Avenue, Ilford. Research student at King's College. *Signed by* : V. Gold, John Honeyman, J. C. D. Brand.
- Pilnik, Walter**, Diploma in Engineering Chemistry and Doctor of Technical Science (Swiss Federal Institute of Technology). Swiss. London School of Tropical Medicine and Hygiene, Keppel Street, W.C. 1. Research work in the Division of Biochemistry. *Signed by* : H. Raistrick, J. H. Birkinshaw, S. E. Michael.
- Poklewski-Koziell, Witold Zenon**. Degree in Chemical Engineering, Warsaw Technical University. Polish. 11, Palace Court, W. 2. Officer, Polish Army in the United Kingdom. *Signed by* : E. F. MacTaggart, Alex D. Kenny L. M. Mundy.
- Riddiford, Austin Charles**. British. 82, Wash Lane, South Yardley, Birmingham, 25. Honours Chemistry Student, Birmingham University. *Signed by* : L. L. Bircumshaw, S. R. Carter, F. W. Pinkard.
- ***Robertson, William**, B.A.(Cantab.). Canadian. St. James' Vicarage, Harlestone Road, Northampton. Demonstrator in Chemistry at the Royal Veterinary College. *Signed by* : D. E. Kidder, D. Graham Harvey, E. G. C. Clarke.
- Slaap, Hendrik Egbert**. Dutch. 171, Horsenden Lane South, Greenford. Works Manager. *Signed by* : C. J. Virden, J. W. Tullo, J. Todd.
- ***Tatchell, Austin Robert**, B.Sc.Hons. (Lond.). British. 28, Budoch Drive, Goodmayes. Research Student, King's College. *Signed by* : D. H. Hey, John Honeyman, D. W. G. Style.
- ***Taylor, David Alexander Harrison**. British. Keble College, Oxford. Student, Honours School of Chemistry, Oxford University. *Signed by* : G. D. Parkes, Harry Irving, S. G. P. Plant.
- ***Theobald, Raymond Stanley**, B.Sc.Hons. (Lond.). British. 28, Bridgwater Drive, Westcliff-on-Sea. Research Student in Organic Chemistry at University College of the South-West of England. *Signed by* : H. T. S. Britton, K. Schofield, T. Swain.
- Thompson, Cyril**. British. Messrs. Guthrie and Adams & Co., 4 Leighton Lane, Leeds, 1. Chief Chemist, Messrs. Guthrie and Adams, Foundry and Metallurgical Consultants. *Signed by* : L. M. Stockdale, J. Rushworth, Harold Piper.
- Tilak, Bal Dattatraya**, B.Sc.Tech. and Ph.D. (Bombay). Indian. Department of Chemical Technology, Matunga, Bombay, 19, India. Research Assistant. *Signed by* : O. Mancera, Ronald P. Bell, H. R. Bentley.
- Treadgold, Marjorie**, B.Sc.Hons. and M.Sc. (Birm.). British. 11a, Cleveland Road, Ealing, W. 13. Industrial Chemist. *Signed by* : C. J. Virden, J. W. Tullo, J. Todd.
- Tyrrell, Victor Daniel**, M.A. and B.Sc.Hons. (Dublin). Irish. 15, Shanid Road, Harold's Cross, Dublin. Assistant Chemist, W. D. and H. O. Wills, Dublin. *Signed by* : Eric T. Murdock, J. I. M. Jones, Thomas McLachlan.

UNDER SPECIAL PROVISION APPERTAINING TO CANDIDATES RESIDENT ABROAD.

- Chardonnens, Louis**, Dr.Sc. (Fribourg). Swiss. Institut de Chimie, Université de Fribourg, Switzerland. Professor of Chemistry. *Signed by* : P. Karrer.
- Daleff, Dimitre Ivanoff**. Chemistry graduate of the Sofia University. Bulgarian. Persenk 31, Sofia, Bulgaria. Professor of Pharmaceutical Chemistry at Sofia University. *Signed by* : Leslie H. Lampitt.

* Reduced Annual Subscription.

PAPERS RECEIVED

List of papers received between September 18th, 1946, and October 17th, 1946. (This list does not include the titles of papers which have been read at a Scientific Meeting or which have appeared in the *Journal*.)

- "The alkaline fission of some β -substituted dimethylethylsulphonium iodides." By C. W. CRANE and H. N. RYDON.
- "Experiments with Grignard solutions. Part III. Action of Grignard solutions on thermochromic *spiropyrans*." By A. SCHÖNBERG, A. MUSTAFA, and (in part) (MISS) W. ASKER.
- "Cinnolines. Part XII. 4-Methylcinnolines." By C. M. ATKINSON and J. C. E. SIMPSON.
- "Reactions of alkylisoformanilides. Part III. With phenols." By E. B. KNOTT.
- "The effect of temperature on the proportions of isomers formed in the mononitration of toluene." By W. W. JONES and M. RUSSELL.
- "Synthetic antimalarials. Part XVII. Some arylaminoaminoalkylaminoquinoline derivatives." By F. H. S. CURD, C. G. RAISON, and F. L. ROSE.
- "Experiments with diazomethane and its derivatives. Part XIII. Action of diazomethane on hydroxy-anils." By A. SCHÖNBERG, A. MUSTAFA, and (in part) M. K. HILMY.
- "Synthetic antimalarials. Part XVIII. 3-Dialkylaminoalkylaminodiphenylamines." By F. G. MANN and J. W. PORTER.
- "Reduction of $\alpha\beta$ -unsaturated carbonyl compounds by sodium butoxide." By CH. WEIZMANN, M. SULZBACHER, and E. BERGMANN.
- " α -cycloHexyl- β -propylacrylic acid from cyclohexanol." By CH. WEIZMANN, M. SULZBACHER, and E. BERGMANN.
- "Synthetic antimalarials. Part XIX. Dialkylaminoalkylaminodiphenylguanidines." By F. G. MANN, F. T. NAYLOR, and J. W. G. PORTER.

- "Derivatives of sulphanilylguanidine: preparation for pharmacological study." By E. HAWORTH, F. L. ROSE, and F. H. SLINGER.
- "The preparation and some reactions of 4-nitrosothioanisole." By H. H. HODGSON, D. D. R. SIBBALD, and E. W. SMITH.
- "The configuration of naturally occurring mixed glycerides. Part III. The configuration of the major component glycerides of piqui-a fruit coat fat." By M. L. MEARA.
- "A new reaction of thiocyanic esters." By E. HOGGARTH and W. A. SEXTON.
- "3(β): 6(β)-Dihydroxycholanolic acid, an epimeride of hyodeoxycholic acid." By J. S. MOFFATT.
- "Compounds related to penicillic acid. Part II. Synthesis of dihydropenicillic acid." By R. A. RAPHAEL.
- "Production of antibiotics by fungi. Part III. Javanicin. An antibacterial pigment from *Fusarium javanicum*." By H. R. V. ARNSTEIN and A. H. COOK.
- "The reaction of 1-nitropropane with formaldehyde and ammonia." By E. L. HIRST, J. K. N. JONES, (MRS.) S. MINAHAN, F. W. OCHYNSKI, A. T. THOMAS, and T. URBANSKI.
- "Synthetic antimalarials. Part XX. Cinnolines. Part XIII. Synthesis and antimalarial action of 4-basicalkylaminocinnolines." By J. R. KENEFORD and J. C. E. SIMPSON.
- "Some catalysed gas-phase reactions of aromatic hydrocarbons. Part I. The interaction of benzene with dimethyl ether." By A. H. GIVEN and D. LL. HAMMICK.
- "Oxidation of [1:2:2]^(3:6)-bicycloheptene-1 (Norbornylene)." By S. F. BIRCH, W. J. OLDHAM, and E. A. JOHNSON.
- "The quantitative estimation of galactose, mannose, arabinose, and rhamnose." By E. L. HIRST, J. K. N. JONES, and E. A. WOODS.
- "On the formulating of the substitution of organic chemical acids (O, S, Te compounds)." By M. ROLLMANN.
- "Polycyclic aromatic hydrocarbons. Part XXXII. 2'-Methoxy-1:2-benzanthracene and 2'-methoxy-9:10-dimethyl-1:2-benzanthracene." By G. M. BADGER.
- "New potential chemotherapeutic agents. Part VII. Experiments on the synthesis of 8-aminopurines." By F. E. KING and T. J. KING.
- "Curare alkaloids. Part VI. Alkaloids from *chondrodendron tomentosum* R. and P." By H. KING.
- "The Friedel-Crafts reaction in the carbazole series. Part III." By S. G. P. PLANT and (MRS.) J. F. POWELL.
- "The constituents of natural phenolic resins. Part XXI. The structure of diisoeugenol." By N. J. CARTWRIGHT and R. D. HAWORTH.
- "Studies on the alkylation of aromatic amines. Part I. The use of aluminium alkoxides as alkylating agents." By J. C. EARL and N. G. HILLS.

THE CHEMICAL SOCIETY

SCIENTIFIC MEETINGS DURING JANUARY

LONDON.

Thursday, January 9th, 1947, at 7.30 p.m.

The following papers will be read and discussed :

“ Toxic fluorophosphonates and related compounds.” By B. C. Saunders.*

“ Some Aspects of the Oxidation and the Dimerisation of Propenylphenols.” By N. J. Cartwright and R. D. Haworth.*

ABERDEEN.

Friday, January 24th, 1947, at 7.30 p.m.

Lecture, **Recent Advances in Our Knowledge of the Metabolism of Proteins and Amino Acids**, by Dr. D. P. Cuthbertson, to be held in the Chemistry Department, Marischal College.

CAMBRIDGE.

Friday, January 17th, 1947, at 8.30 p.m.

Tilden Lecture, **Macromolecules Synthesised by Micro-organisms**, by Professor M. Stacey, D.Sc., Ph.D., F.R.I.C., to be held in the University Chemical Laboratory.

LIVERPOOL.

Thursday, January 23rd, 1947, at 5 p.m.

Lecture, **Metabolic Cycles**, by Professor H. A. Krebs, M.A., M.D., to be held in the Chemistry Lecture Theatre of the University.

MANCHESTER.

Thursday, January 9th, 1947, at 7.30 p.m.

Lecture, **On Molecular Interaction at Oil/Water Interfaces**, by Dr. J. H. Schulman, Dip.Ing.Chem. Joint meeting with the Local Section of the Royal Institute of Chemistry to be held in the Chemistry Department of the University.

SHEFFIELD.

Thursday, January 30th, 1947, at 5.30 p.m.

Lecture, **Some Relationships between the Structure and Properties of Natural and Synthetic Fibres**, by Professor J. B. Speakman, D.Sc., F.R.I.C.

Joint meeting with the University Chemical Society to be held in the Chemistry Lecture Theatre of the University.

ST. ANDREWS AND DUNDEE.

Friday, January 31st, 1947, at 5 p.m.

Lecture, **Modern Trends in the Chemical Utilisation of Wood**, by Dr. W. G. Campbell, to be held in the Chemistry Department, University College, Dundee.

* To read paper.

SOUTH WALES.

Thursday, January 23rd, 1947, at 6 p.m.

Lecture, **The Absorption of Light**, by Mr. E. J. Bowen, M.A., F.R.S.

Joint meeting with the University College of Swansea Chemical Society to be held in the Chemistry Lecture Theatre of the University College, Swansea.

PROCEEDINGS
OF THE
CHEMICAL SOCIETY.

**Minutes of a
SCIENTIFIC MEETING**

held at Burlington House, Piccadilly, W. 1, on Thursday, November 7th, 1946, at 7.30 p.m.

The President, PROFESSOR C. N. HINSELWOOD, Sc.D., F.R.S., was in the Chair and welcomed the Visitors present.

MINUTES.

The Minutes of the Scientific Meeting held on Thursday, October 17th, 1946, were read and were confirmed and signed.

PROFESSOR P. F. FRANKLAND.

The meeting stood whilst Professor W. Wardlaw, Honorary Secretary, read the following resolution :

“ The President, Council and Fellows of the Chemical Society learned with profound regret at their meeting today, of the death on October 28th, 1946, of their eminent past President, Professor Percy F. Frankland. They desire to express their high appreciation of his distinguished original contributions to the science of chemistry, particularly in the field of optical activity and stereochemistry, and of the service he rendered to the community in the part he played in placing the study of water supply problems on a scientific basis.

“ They also record their indebtedness to him for his devotion to the affairs of the Society. He first became a Member of Council in 1887, Vice-President in 1902 and President during 1911—1913. The science of chemistry is poorer by his death and the Council mourn the loss of a revered colleague.

“ The Council convey their deepest sympathy to Edward Percy Frankland in his great sorrow, not only in the death of his father, but also of his mother, whose death was reported only a few weeks ago.”

FORMAL ADMISSION OF FELLOWS.

The following were admitted Fellows of the Society : S. J. Hart, D. Barby, G. Stranz, M. Berlak, G. M. Pam, J. D. Jones, G. G. S. Dutton, R. M. Sales, A. J. James, D. W. Clayton, W. G. H. Edwards, M. Pianka, O. C. Musgrave, C. A. Bunton, I. G. Holden, D. H. Kohn.

DISCUSSION.

The PRESIDENT called on Dr. G. M. Bennett to open the Discussion on “ Nitration,” and the following contributed :

Mr. J. C. D. Brand.
Professor C. K. Ingold.
Dr. D. J. Millen.
Professor Gwyn Williams.
Professor E. D. Hughes.
Dr. R. I. Reed.

A general discussion followed in which Dr. J. Chédin, Dr. M. J. S. Dewar, Professor J. C. Earl, Dr. R. P. Linstead and Dr. A. L. Lovecy took part.

**Minutes of a
SCIENTIFIC MEETING**

held at Burlington House, Piccadilly, W. 1, on Thursday, November 21st, 1946, at 7.30 p.m.

The President, PROFESSOR C. N. HINSHELWOOD, Sc.D., F.R.S., was in the Chair.

MINUTES.

The Minutes of the Scientific Meeting held on Thursday, November 7th, 1946, were read and were confirmed and signed.

FORMAL ADMISSION OF FELLOWS.

The following were admitted Fellows of the Society: L. V. Lecomber, M. Corner, R. D. Brearley, D. M. Page, P. D. H. Holman, H. M. Lowe, J. L. Bailey.

SCIENTIFIC COMMUNICATIONS.

The following papers were read and discussed:

“The kinetics of halogen addition to unsaturated compounds. Part XII. Iodine catalysis of chlorine and bromine addition to ethyl cinnamate.” By H. D. C. Waters, A. R. Caverhill, and P. W. Robertson.

“Evidence for the homolytic bond fission of ‘Positive halogen’ compounds.” By A. Robertson and W. A. Waters.

OFFICIAL ANNOUNCEMENTS

DEATHS.

The Council regret to announce the deaths of the following Fellows:

	Elected.	Died.
Joseph John Blackie (Edinburgh)	June 18th, 1925.	Oct. 30th, 1946.
Clarence Barnes Collis (Sunbury-on-Thames).....	Aug. 17th, 1944.	Sept. 20th, 1946.
Percy Faraday Frankland (Loch Awe) (Resolution of Council above).....	Dec. 2nd, 1880.	Oct. 23rd, 1946.
Cornelius Durham Garbutt (Liverpool)	Feb. 15th, 1912.	Aug. 10th, 1946.
John Grant Gordon (W.C. 1)	Dec. 6th, 1928.	Oct. 18th, 1946.
Philip George Wickens (Maidstone)	May 7th, 1936.	Oct. 23rd, 1946.

ANNUAL SUBSCRIPTION 1947.

Fellows will have already received the notice regarding the payment of the annual subscription for 1947, and the order form for publications. In order to expedite the work of sorting requests for publications, Fellows are earnestly requested to return the publications form and to send their subscriptions either to Messrs. Coutts and Company, 440, Strand, London, W.C. 2, or, in the case of Fellows paying a joint subscription, to the Conjoint Chemical Office, 9/10, Savile Row, W. 1, as soon as possible.

MEETING OF COUNCIL.

A meeting of Council was held on Thursday, November 7th, 1946.

The PRESIDENT welcomed Dr. F. E. King to the meeting. Dr. King was co-opted a member of Council until the next Annual General Meeting on the retirement of Dr. R. J. W. Le Fèvre, who had taken up an appointment in Australia.

It was agreed to convey congratulations to Dr. T. W. J. Taylor, C.B.E. (Fellow) on his appointment as Principal-designate to the newly established West Indian University College, and to Mr. E. S. Whitworth (Fellow), who was awarded the British Empire Medal (Military Division) in the last Birthday Honours List.

The Reports of the Publication Committee (October 3rd and November 7th) were adopted including the proposal for a broader margin in the *Journal* and the amendment to paragraph 5 of the Notices to Authors of Papers appearing in the *Journal*.

A letter from Sir Robert Robinson, P.R.S., accepting the Council's invitation to deliver the Faraday Lecture during the Centenary Celebrations of the Society in 1947, was received with pleasure.

A gift under Deed of Covenant from Genatosan, Ltd., contributions from the Royal Institute of Chemistry and the Society of Chemical Industry towards the maintenance costs of the Library for 1945 in accordance with the scale recently submitted by the Chemical Council, and a contribution to the Library for 1946 from the Society of Dyers & Colourists were noted and acknowledgment made.

The Report of the Finance and General Purposes Committee (October 21st) was adopted. The Report dealt with various investments of the Society due for redemption and re-investment; a Centenary Appeal for a capital sum, the interest from which would be mainly devoted to providing the expenses of Chemists from overseas and sent overseas to lecture, etc., and which is to be made to British chemical industrial firms, to Fellows and others; nomination of representatives of the Society on other bodies for the year 1947.

A letter from Lord McGowan, Chairman of Imperial Chemical Industries, Ltd., to the President, appreciating the leading part played by the Chemical Society in promoting chemistry in the country and offering hospitality on the occasion of the Centenary, together with the President's reply and acceptance of this invitation, was received with very great pleasure.

The resignations of Professor W. Cocker, Mr. R. P. Bell, and Dr. S. H. Harper as Local Representatives for Newcastle and Durham, Oxford, and Southampton, respectively were accepted with regret and Drs. P. L. Robinson, F. E. King, and K. R. Webb, respectively, have been invited to take up these appointments.

The Tenth Report of the Chemical Council was received.

It was agreed that the Society should give scientific support to the re-establishment of the Gmelin Handbook without incurring any financial responsibility.

Messages of thanks from the Société de Chimie Industrielle for good wishes sent by the Society on the occasion of the Paris congress, and of goodwill from the Chemical Society of Peru were read.

36 Candidates for Fellowship were elected Fellows of the Society.

Certain formal and financial items were also transacted.

ELECTION OF NEW FELLOWS.

The following 36 candidates were elected Fellows of the Society on November 7th, 1946 :

Philip Basil Baker.	Victor Grifols.	Douglas James Millen.
William Austin Boggust.	Kenneth Arnold Hassall.	Edward Norman Morgan.
Arthur Bracken.	George Heberlein.	Andrew Nicholson.
Boris Peter Brand.	Alan Keith Hobbs.	James Robert Lewis Nuttall.
Louis Theodore Le Gay Burley.	Peter Dennis Hocking Holman.	Delia Margaret Page.
Brian Evans Conway.	Graham Willis Holton.	Harold Anthony Rees.
Ruy Gustavo Couciers da Costa.	Bimal Das Jain.	Joan Anne Reynolds.
Eva Barbara Cumming.	Philip Aldwyn Jenkins.	Viliam Rieder.
Leon Damas.	Karl Bryce Warner Jones.	John Austiu Salter.
Barbara Augusta Edmed.	Robert Albert Conrad Kuenzli.	Tom Cartwright Shaw.
Robert Thomas Fowler.	Leslie Vincent Lecomber.	Geoffrey Swain.
Francesco Giordani.	Patrick Mamalis.	Wilson Shaw Waring.

ANNUAL REPORTS FOR 1945.

The following is the list of contents of the "Annual Reports on the Progress of Chemistry 1945," which, it is expected, will be published at the end of January, 1947.

GENERAL AND PHYSICAL CHEMISTRY.

1. Recent Advances in Infra-red Spectroscopy. By H. W. Thompson.
2. Friction and Lubrication. By F. P. Bowden and D. Tabor.
3. Crystallography. By J. M. Robertson.

INORGANIC CHEMISTRY. By A. J. E. Welch.

1. Introduction and General.
2. Valency and the Constitution of Some Inorganic Molecules.
3. Some Aspects of the Chemistry of Complex Compounds.
4. Organosilicon Compounds: Volatile Halides and Their Derivatives.
5. Some Heterogeneous Equilibria.
6. "Sub-compounds" and Inorganic Free Radicals.

ORGANIC CHEMISTRY.

1. Introduction.
2. General Methods. By R. A. Baxter and F. S. Spring.
3. Ultra-violet Light Absorption and the Structure of Organic Compounds. By E. A. Braude.
4. Mechanisms of Oxidation. By W. A. Waters.
5. Furans. By L. N. Owen.
6. Chemistry of Adenine Nucleotide Coenzymes. By B. Lythgoe.
7. Pyrazine and its Derivatives. By G. T. Newbold and F. S. Spring.

BIOCHEMISTRY.

1. The Integration of the Intermediary Metabolism of Carbohydrates, Fats, and Amino-Acids. By F. Dickens.
2. Biochemistry of the Adrenal Cortex. By F. G. Young.
3. Specific Blood-group Substances. By W. T. J. Morgan.
4. Hyaluronic Acid and Hyaluronidase. By W. T. J. Morgan.
5. Cytochemistry. By J. N. Davidson.

ANALYTICAL CHEMISTRY.

1. The Protein Amino-acids. By E. G. Kellett.
2. Organic Reagents in Inorganic Analysis. By J. G. N. Gaskin.

ELECTRON JUBILEE CELEBRATIONS.

Preliminary notice has been received from the Institute of Physics that the fiftieth anniversary celebrations of the discovery of the electron by Sir Joseph Thomson, O.M., will take place between 25th and 26th September, 1947, in London. The Institute and the Physical Society are jointly arranging a series of meetings and other functions, including a special exhibition. Further details will be announced.

BRITISH STANDARDS INSTITUTION.

The following drafts of British Standard Specifications have been received for technical comment :

- CH(FCC) 7320 Draft revised B.S.506 Methyl Alcohol (Methanol).
- CH(FCC) 7321 Draft revised B.S.663 Ethyl Lactate.
- CH(FCC) 7322 Draft revised B.S.552 Amyl Acetate.

These have been placed in the Library and Fellows wishing to make technical comments are requested to do so before January 29th, 1947, to the British Standards Institution, 28, Victoria Street, Westminster, S.W. 1.

MEETINGS OUTSIDE LONDON
ABERDEEN.

“ Microscopy with Electrons and X-rays,” by Professor G. D. Preston, M.A., Sc.D., F.Inst.P.

A joint meeting of the Society with the local sections of the Royal Institute of Chemistry and the Society of Chemical Industry was held at Marischal College, Aberdeen, on October 25th, 1946.

Professor Preston indicated the position of the wavelengths of light and of X-rays, of bacteria, viruses, atoms, and electrons on the scale of magnitude. He traced the limitations of magnification by optical means, described the principles of the electron microscope, and illustrated by many lantern slides how our knowledge of the structure of small objects was being increased by electron microscopy. Finally, he showed that interpretation of the diffraction patterns from X-rays gives a method which literally enables us to see the atoms themselves.

EDINBURGH.

“ Some Observations on Biological Oxidation and Reduction,” by Dr. D. J. Bell, M.A., F.R.I.C.

A joint meeting of the Society with the Edinburgh University Chemical Society and the Local Sections of the Royal Institute of Chemistry and Society of Chemical Industry was held at 7 p.m. on October 29th, 1946, in the Biochemistry Lecture Theatre of the University, with Mr. R. A. Laidlaw in the Chair. Dr. D. J. Bell gave a vivid and fascinating account of the present state of our knowledge of Biological Oxidation and Reduction, in which he dealt with alcoholic fermentation and animal systems and emphasised the important rôle played by the type of linking of the phosphoric acid residues in the various cycles. A lively discussion followed and a vote of thanks to the Lecturer, proposed by Mr. T. R. R. MacDonald, was carried with enthusiasm.

GLASGOW.

Lecture by Dr. H. J. T. Ellingham, F.R.I.C.

A joint meeting with the Alchemists' Club and the Andersonian Chemical Society was held on October 25th, 1946 at 4 p.m. in the Royal Technical College, Glasgow.

Owing to the late arrival of Professor Morton, due to travelling difficulties, the original arrangements for the meeting were cancelled, and Dr. H. J. T. Ellingham addressed the largely student audience on

the organised services provided for the chemist by the three Chartered Chemical Societies. Dr. Ellingham's address was very warmly appreciated.

Lecture, "Electrolysis as an Industrial Process," by Dr. H. J. T. Ellingham, F.R.I.C.

A joint meeting with the local sections of the Royal Institute of Chemistry and the Society of Chemical Industry held on October 25th, 1946, at 7.15 p.m. in the Royal Technical College, Glasgow.

Beginning with a description of some typical electrode reactions, including reference to secondary reactions, Dr. Ellingham proceeded to classify various industrial applications. Considerations of economy and current efficiency were then developed in relation to plant design and its adaptation to particular requirements. The factors of economic importance in the consumption of electrical energy were evaluated and a description was given of test methods used to determine optimum running conditions. Among the advantages of the process, emphasis was laid on the precision of control available and its relative simplicity as a problem of chemical engineering. The lecture was illustrated by a series of lantern slides and, after a well-sustained discussion, Mr. A. Jamieson expressed the thanks of an appreciative audience.

Lecture, "Atomic Energy," by Professor P. I. Dee, C.B.E., F.R.S.

The Chemical Society participated in a joint meeting with the Local Sections of the Royal Institute of Chemistry and the Society of Chemical Industry, held on November 1st, 1946, at 7.15 p.m. in the Royal Technical College, Glasgow, Mr. W. J. Skilling being in the Chair. Professor Dee gave a stimulating account of the principles on which the release of atomic energy is based. After discussion, a vote of thanks was accorded with enthusiasm.

Lecture, "Melting and Other Phase Changes," by Professor A. R. Ubbelohde, M.A., D.Sc., F.R.I.C.

A joint meeting of the Society with the Local Sections of the Royal Institute of Chemistry and the Society of Chemical Industry was held in the University, Glasgow, on November 15th, 1946, at 7.15 p.m. From the Chair, Professor J. M. Robertson, referred to the loss sustained by the Society through the recent death of Professor P. F. Frankland, C.B.E., F.R.S.

Professor Ubbelohde gave a most stimulating account of experimental evidence relating to the changes which occur at or near the melting point. After a vigorous discussion a vote of thanks, moved by Dr. J. Bell, was carried with acclamation.

LIVERPOOL.

Lecture, "Some Aspects of Infra-red Measurements," by Dr. H. W. Thompson, M.A., F.R.S.

A joint meeting with the local sections of the Royal Institute of Chemistry, the Society of Chemical Industry, the British Association of Chemists, and the University Chemical Society was held on November 13th, 1946, at Liverpool University, Professor W. C. McC. Lewis being in the Chair.

The Lecturer dealt at length with the methods of infra-red spectroscopy with particular reference to the enormous advances, made during the last six years, which had enabled the technique to be applied with rapidity even to molecules of polymeric substances. A vote of thanks, carried with acclamation, was proposed by Mr. McDowell and seconded by Mr. Mills.

SHEFFIELD.

Two Lectures, "Principles of Polarography," and "The Applications of Polarographic Analysis," by Professor J. Heyrovsky, D.Sc., Ph.D.

A joint meeting of the Society with the local section of the Royal Institute of Chemistry, the Sheffield Metallurgical Association and the University Chemical Society was held for the first time on October 17th, 1946, at the University.

At the afternoon session, with Professor R. D. Haworth, F.R.S., in the Chair, the Vice-Chancellor (Dr. J. I. O. Masson, F.R.S.) extended a very cordial welcome to Professor Heyrovsky to the University and expressed his own personal pleasure at meeting him again in this country. After thanking the Vice-Chancellor and the large audience for their warm welcome, Professor Heyrovsky discussed the "Principles of Polarography." The discourse, which was of great interest to the many enthusiasts in the audience, was followed by a lively discussion.

After the meeting had adjourned for tea, the Chair was taken by Dr. R. A. Mott, and Professor Heyrovsky gave an equally stimulating account of "The Applications of Polarographic Analysis," reviewing much recent unpublished work. The keen discussion which followed was ended by Dr. Mott calling on Mr. E. J. Vaughan, M.Sc., of the Admiralty Bragg Laboratories, to propose a vote of thanks to the

lecturer. This was seconded by Mr. J. Haslam of Imperial Chemical Industries, Ltd., and carried with acclamation.

Lecture, "Synthetic Approach to the Nucleotides," by Professor A. R. Todd, D.Sc., F.R.S.

A Joint Meeting of the Society and the University Chemical Society was held in the Chemistry Lecture Theatre of the University on October 24th, at 5.30 p.m. with Professor R. D. Haworth, F.R.S., in the Chair. Professor Todd gave a lucid and fascinating account of the recent synthetic work in the field of the nucleotides which was highly appreciated by a large audience. An interesting discussion followed, and a vote of thanks proposed by Professor Krebs and seconded by Mr. Major was carried with acclamation.

SOUTH WALES.

Lecture, "Homolytic Reactions," by Professor D. H. Hey, D.Sc., Ph.D., F.R.I.C.

A joint meeting of the Society with the University College of Swansea Chemical Society was held at 6 p.m. on November 1st, 1946, in the Chemistry Lecture Theatre of the College.

Professor J. E. Coates, Local Representative, took the Chair, and welcomed Professor D. H. Hey as an old student of the College and former President of the Students' Chemical Society. Professor Hey delivered a lecture on "Homolytic Reactions"—*i.e.*, reactions of molecules with atoms or free radicals involving the symmetrical fission of the electron pair of a covalent bond. Beginning with the early work of Gomberg, he discussed many examples of this class of reaction and the evidence for their homolytic nature, such as true unimolecular character with rate constant substantially independent of the nature of the solvent, and showed that many important reactions in solution have proved to be radical or atom chain processes involving homolysis. The lecturer discussed for example the decomposition of diazo-compounds, the reaction of nitrosoacylarylamines and of arylazotriarylmethanes, reactions involving benzoyl peroxide and sulphuryl chloride, the polymerisation of styrene, and Grignard reactions—*e.g.*, the synthesis of hexoestrol.

A discussion followed, and a vote of thanks to Professor Hey for his lecture on a subject to which he has himself made such far-reaching contributions was proposed by Dr. L. E. Hinkel, seconded by Mr. J. B. Lewis, and carried with enthusiasm.

LIST OF APPLICATIONS FOR FELLOWSHIP

(*Fellows wishing to lodge objections to the election of these candidates should communicate with the Honorary Secretaries before December 31st, 1946. Such objections will be treated as confidential. The forms are displayed in the Library.*)

- ***Aitken, Roxburgh Richmond**, B.Sc.Hons. (Glas.). British. 48, Urchard Street, Galston. Research Student, Glasgow University. *Signed by* : James D. Loudon, T. S. Stevens, G. M. Badger.
- ***Alt, Gerhard Horst**. German. 84, Broadfields Avenue, Edgware. Laboratory Assistant. *Signed by* : R. E. Bowman, R. W. Pittman, D. J. G. Ives.
- Arthur, John Rex**, M.A. and B.Sc.(Oxon), A.R.I.C. British. 11, Lingfield Avenue, Kingston. Research Chemist. *Signed by* : W. J. Kramers, I. G. C. Dryden, E. S. Stockton.
- ***Bannister, Brian**, B.A.(Oxon). British. Oriol College, Oxford. Research Student. *Signed by* : Ronald P. Bell, D. Ll. Hammick, S. G. P. Plant.
- Bishop, Laurence Robert**, M.A. and Ph.D. (Cantab.), D.Sc. (Birm.), F.R.I.C. British. 29, Kingswood Avenue, Shortlands, Bromley. Chief Chemist, Messrs. Watney Coombe Reid & Co., Ltd. *Signed by* : Julian L. Baker, A. C. Chibnall, R. H. Hopkins.
- Black, Thomas Charteris**, M.P.S. British. Oak Trees, Newlands Avenue, Radlett. Manufacturing Chemist. *Signed by* : Sidney G. E. Stevens, W. H. Linnell, W. R. Bett.
- ***Bond, Alexander Edward**, B.A. (Oxon). British. Oriol College, Oxford. Research Student. *Signed by* : D. Ll. Hammick, A. S. Bailey, S. G. P. Plant.
- ***Brackman, Derek Samuel**. British. 99, Leicester Road, Salford, 7. Student, Manchester University. *Signed by* : A. E. Gillam, F. Fairbrother, Colin Campbell.
- ***Brüll, Hans**. Austrian. 78, Canfield Gardens, N.W.6. Student, University College, Southampton. *Signed by* : N. K. Adam, Ishbel G. M. Campbell, S. H. Harper.
- ***Bryant, Kenneth Henry**. National Certificate in Chemistry. British. 61, Gloucester Road, Bristol, 7. Junior Chemist. *Signed by* : Arthur Marsden, W. Pearson Thistlethwaite, Frank H. C. Bull.
- Bussell, Leonard Herbert**, B.Sc. (Lond.), F.R.I.C. English. *c/o* Messrs. Goodlass Wall & Co., Ltd., 70, Mill Lane, Old Swan, Liverpool, 13. Chief Chemist. *Signed by* : E. J. Bond, E. H. Rodd, R. Fraser Thomson.
- Cameron, Albert James**, B.Sc. (Aberd.), F.R.I.C. British. Kinkell, Inverurie. War Department Analyst. *Signed by* : G. Roche Lynch, R. Leslie Collett, H. J. T. Ellingham.
- Chakravarti, Ram Narayan**, D.Sc. (Calcutta). British. Dyson Perrins Laboratory, South Parks Road, Oxford. Research Chemist. *Signed by* : R. M. Acheson, Kenneth H. Pausacker, A. S. Bailey.
- Clarke, Arthur Henry**, B.Sc. (Lond.), A.R.I.C. British. 108, Elthorne Park Road, Hanwell, W. 7. Chemist. *Signed by* : H. B. Milner, A. M. Ward, L. J. Chalk.

- ***Cooke, Sidney John Harbron**, B.A. (Oxon). British. 3, Beaconsfield Avenue, Colchester. Research Physical Chemist. *Signed by* : Ronald P. Bell, G. Swann, P. E. Milsom.
- Cooper, Wilfred**, M.Sc. (Lond.), A.R.I.C. British. 11, Manor Road, Streetly, nr. Birmingham. Research Chemist. *Signed by* : Herbert K. Hartley, C. E. Kendall, E. M. Joiner.
- ***Crook, Michael Allan**. British. 26, Northwood Gardens, Ilford. Student. *Signed by* : H. Holness, R. W. Jukes, C. G. Hawkins.
- Curtis, Ronald George**, M.Sc. (Melbourne), A.A.C.I. British. 7, Nevern Place, Earls Court, S.W. 5. Post graduate research student at Imperial College, London. *Signed by* : H. B. Henbest, P. A. Robins, E. R. H. Jones.
- ***Davies, Eric**. British. Stavros, Trentham Road, Blurton, Stoke-on-Trent. Student, Birmingham University. *Signed by* : M. Stacey, F. W. Pinkard, L. L. Bircumshaw.
- de la Mare, Peter Bernard David**, M.Sc.Hons. (N.Z.), A.N.Z.I.C. British. c/o Major A. Child, 10, The Drive, Shoreham-by-Sea. Research Student, University College, London. *Signed by* : E. D. Hughes, P. W. Robertson, C. K. Ingold.
- ***Drake, John**, B.Sc.Hons. (Lond.). British. 3, Dryburgh Road, Putney, S.W. 15. Research Student. *Signed by* : E. E. Turner, R. M. Barrer, D. W. Riley.
- Duewell, Heinz**, M.Sc. (Sydney). British. 5, Tudor House, 38, Blair Street, Bondi, N.S.W. Teaching Fellow in Chemistry, University of Sydney. *Signed by* : Adrien Albert, T. Iredale, D. J. Brown.
- Eldridge, Elsie Margaret**, B.Sc.Hons. (Lond.), B.Pharm. (Lond.), Ph.C. British. Beaulieu Farm, Baldslow, St. Leonards on Sea. Research Chemist at May and Baker, Ltd. *Signed by* : H. J. Barber, J. O'Mara-Bockris, W. R. Wragg.
- Elliott, Roy Gordon Henry**, Inter.B.Sc. British. 35, Slade Green Road, North End, Erith. Development and Manufacture of synthetic drugs. *Signed by* : E. Walton, Wm. Wardlaw, R. W. Pittman, G. E. Foster.
- Ernst, Rudolf Lionel**, Chem.Eng. (Vienna), Dr. Ing. (Vienna). British. 68, Middle Harbour Road, Lindfield, Sydney, N.S.W. Research and Consulting Chemist. *Signed by* : Thomas Iredale, Adrien Albert, B. Breyer.
- ***Francis, Cecil John**. British. 153, Northern Parade, North End, Portsmouth. Student, University College, Southampton. *Signed by* : Ishbel G. M. Campbell, N. K. Adam, S. H. Harper.
- ***Fricker, John Raymond**. British. 171, Maybank Road, South Woodford, E. 18. Student, University College, Southampton. *Signed by* : S. H. Harper, Ishbel G. M. Campbell, N. K. Adam.
- ***Frohnsdorff, Colin Herbert**, B.Sc. (Lond.). British. 60, Hamilton Crescent, Palmers Green, N. 13. Postgraduate Student. *Signed by* : W. Gerrard, H. J. S. King, R. W. West.
- ***Gentles, Robert Paul**, B.Sc.Hons. (Glas.). British. 5, Pennan Place, Glasgow, W. 4. Research Student. *Signed by* : S. Horwood Tucker, James D. Loudon, T. S. Stevens.
- Glynn, Harry Ephraim**, B.Sc. (Lond.), Ph.C., F.R.I.C. British. 10a, York Mansions, Earls Court Road, S.W. 5. Industrial Chemist. *Signed by* : A. L. Bacharach, E. Lester Smith, James E. Page.
- Grimes, Fred Cameron**, Inter.B.Sc. (Lond.). British. 66, Boyne Road, Lewisham, S.E. 13. Student, Imperial College, London. *Signed by* : Arthur I. Vogel, G. H. Jeffery, D. M. Cowan.
- Hamburg, Herman Rudolph**, Ph.D. (Vienna). British. 12, Lichfield Court, Richmond. Research Chemist in charge of Laboratories of Messrs. Syntics, Ltd., E. 13. *Signed by* : Evan Roberts, S. Pickholz, L. N. Owen.
- Hall, Thomas Charles**, M.S.R. British. Langland, London Road, Wickford. Biochemical Assistant. *Signed by* : G. D. Greville, W. J. Lile, W. Taylor.
- Hickey, Bartholomew Patrick**, Ph.C., M.P.S.I. Irish. Rush, Co. Dublin. Pharmaceutical Chemist. *Signed by* : A. G. G. Leonard, T. S. Wheeler, Vincent C. Barry.
- ***Hill, Alexander**. British. Rose Dene, Rowlands Gill, Co. Durham. Student, King's College, University of Durham. *Signed by* : Wesley Cocker, J. O. Harris, Richard Raper.
- Hill, William**, B.Sc. (Glas.), A.R.I.C. British. 9, Daldowie Avenue, North Mount Vernon, Glasgow, E. 2. Teacher. *Signed by* : T. S. Stevens, James D. Loudon, Andrew Kent.
- Hood, Eric Wharton**, B.Sc.Hons. (Birm.). British. c/o 19, Perrymead Street, Fulham, S.W. 6. Research Chemist. *Signed by* : L. P. McHatton, P. F. Cooke, T. Martin A. Tudhope.
- Hough, Ellis**, M.Sc.Hons. (Leeds). British. c/o Rock Lawn, View Road, Rainhill, nr. Liverpool. Senior Chemistry Master, Prescott Grammar School, Lancs. *Signed by* : F. Firth, Robert Gawler, Trefor Davies.
- Howard, George Marshall**. British. 704, Frobisher House, Dolphin Square, S.W. 1. Chief Chemist in charge of Analytical Control Laboratories of Messrs. John Wyeth & Brother Ltd., and Messrs. The International Chemical Co., Ltd., Braydon Road, N. 16. *Signed by* : Harold G. Haynes, Theodore White, A. Sciver.
- Hulsken, Mrs. Enid Marian**, B.A. (Cantab.), B.Sc. (Lond.). Dutch. 25, Ashley Road, Epsom. Research Librarian. *Signed by* : F. A. Robinson, H. M. Stanley, R. H. Hall.
- Jakobovits, Josef**, B.Sc. (Lond.). German. Court Lodge, Mulberry Street, E. 1. Research Student at University College, London. *Signed by* : O. L. Brady, C. K. Ingold, J. N. E. Day.
- ***Levy, Joseph Lionel**. British. South Stoneham House, Swaythling, Southampton. Student, University College, Southampton. *Signed by* : S. H. Harper, N. K. Adam, Ishbel G. M. Campbell.
- Liddon, Edward Charles**, M.P.S. British. 3, The Ridge, Coulsdon, Surrey. Pharmacist, Control Laboratory, Messrs. Bengué & Co., Ltd., Manufacturing Chemists, Alperton, Wembley. *Signed by* : Douglas C. Harrod, Kenneth B. Belcher, D. C. Garratt.
- ***Loebl, Hanna**. British. 26, Rectory Terrace, Gosforth, Newcastle-on-Tyne, 3. Student, King's College, Newcastle-on-Tyne. *Signed by* : Richard Raper, Wesley Cocker, G. R. Clemo.
- ***Lowen, Ailsa Maevey**, B.Sc. (Melbourne). British. Royal Holloway College, Englefield Green. Research Student. *Signed by* : Gwyn Williams, A. Graham Foster, M. M. T. Plant.
- Marchant, Reginald Humfrey**, B.Sc.Hons. (Lond.). British. 28, Ethelbert Gardens, Ilford. Demonstrator in Biochemistry. *Signed by* : D. E. Kidder, P. C. Crofts, D. Graham Harvey.
- ***Mattock, George Victor Robert**, Inter.B.Sc. British. 13, Cobden Road, Leytonstone, E. 11. Student. *Signed by* : H. Holness, R. W. Jukes, C. G. Hawkins.
- Misra, Gauri Shankar**, M.Sc. (Allahabad). Indian. 20, Addiscombe Grove, Croydon. Research Student at King's College, Strand, W.C. 2. *Signed by* : J. M. Osbond, O. C. Musgrave, D. H. Hey.
- Monro, Ernest Austin**, B.Sc. (St. Andrews). British. c/o Armament Research Department, R.G.P.F., Waltham Abbey. Technical Secretary. *Signed by* : Elwyn Roberts, W. W. Jones, A. Lovecy.

- *Morgan, Thomas Meirion.** British. 5, Heol Maelor, Johnstown, nr. Wrexham. Student, University College of Wales, Aberystwyth. *Signed by* : C. W. Davies, Kurt Heller, J. B. Bowen.
- Moss, John Arthur,** Inter.B.Sc. British. 30, Beechcroft Avenue, New Malden, Surrey. Student, Imperial College, London. *Signed by* : B. Atkinson, L. S. Theobald, J. A. Kitchener.
- Murnaghan, Arthur Reginald.** British. 16, St. Denys Road, Southampton. Student, University College, Southampton. *Signed by* : N. K. Adam, Ishbel G. M. Campbell, S. H. Harper.
- Paine, Frank Albert,** B.Sc. (Lond.), A.R.I.C. British. 20, Upham Park Road, Chiswick, W. 4. Research Chemist. *Signed by* : W. H. Banks, G. L. Riddell, Robert H. Pickard.
- *Parker, Richard Eric,** B.Sc.Hons. (Lond.), A.R.I.C. British. 48, Avonmore Road, West Kensington, W. 14. Demonstrator, King's College, London. *Signed by* : John M. Osbond, D. H. Kohn, D. H. Hey.
- Parkinson, Allan Rycroft,** B.Sc. (Manc.). British. 11, Bentinck Street, W. 1. Chemical and Drug Merchant. *Signed by* : G. J. Pritchard, Richard W. Wren, Harri Heap.
- *Pate, Brian David,** Inter.B.Sc. British. 52, Priory Avenue, South Chingford, E. 4. Student. *Signed by* : R. W. Jukes, H. Holness, C. G. Hawkins.
- *Ring, Maurice Frank.** British. Keble College, Oxford. Student, Oxford. *Signed by* : G. D. Parkes, Harry Irving, L. A. K. Staveley.
- *Ritchie, Alexander Crawford,** B.Sc.Hons. (Glas.). British. 20, Ella Gardens, Mossend, Bellshill. *Signed by* : James D. Loudon, T. S. Stevens, C. Buchanan.
- *Roberts, Gordon John.** British. 184 Anchor Road, Longton, Stoke-on-Trent. Student. *Signed by* : M. Stacey, F. W. Pinkard, L. L. Bircumshaw.
- *Rogers, Roy Charles,** Inter.B.Sc. British. 88, Butler Road, Harrow. Technical Assistant, Messrs. Reddie & Grose, Chartered Patent Agents. *Signed by* : T. A. Soames, D. Ridge, H. Lambourne.
- *Rutherford, Allan,** B.Sc.Hons. (Lond.). British. 5, Hoskins Street, Greenwich, S.E. 10. Research Student, King's College, London, W.C. 2. *Signed by* : V. Gold, John Honeyman, J. C. D. Brand.
- Santhappa, Muchi,** B.A. (Madras). British. International Language Club, 20, Addiscombe Grove, East Croydon. Research Student, Northern Polytechnic. *Signed by* : W. A. Smeaton, W. Gerrard, H. J. S. King.
- *Sayers, Edward Cecil.** British. 20, Claremont Road, Twickenham. Student, University College, Southampton. *Signed by* : N. K. Adam, Ishbel G. M. Campbell, S. H. Harper.
- *Shipton, Gordon Owen,** B.Sc.Hons. (L'pool). British. 536, Stanley Road, Liverpool, 20. Technical Assistant. *Signed by* : A. M. McGookin, W. B. Whalley, Leonard E. Jones.
- Skellon, Joseph Henry,** M.Sc. and Ph.D. (Lond.), B.Sc. (Bristol), F.R.I.C. British. 57, Murray Avenue, Bromley. Lecturer in Chemistry, Chelsea Polytechnic, Manresa Road, S.W. 3. *Signed by* : J. C. Crocker, Charles Doreet, F. H. Lowe.
- *Soanes, Peter William.** British. 9, Kennedy Road, Maybush, Southampton. Student, University College, Southampton. *Signed by* : N. K. Adam, Ishbel G. M. Campbell, S. H. Harper.
- Spensley, Philip Calvert,** B.A. (Oxon). British. 22, Mount Avenue, Ealing, W. 5. Research in Organic Chemistry at the Dyson Perrins Laboratory, Oxford. *Signed by* : Ronald P. Bell, R. M. Acheson, H. R. Bentley.
- *Standen, Colin John Smeed,** Inter.B.Sc. (Lond.). British. Pentire, The Groves, Snodland. Student, University College, Southampton. *Signed by* : N. K. Adam, Ishbel G. M. Campbell, S. H. Harper.
- *Swayne, Roy Eric Hugh,** Inter.B.Sc. British. Pontac, Harrow Road, Sudbury Wembley. Assistant Research Chemist. *Signed by* : David O. Holland, J. Elks, John Attenburrow.
- *Tibbs, Geoffrey Thomas,** Inter.B.Sc. British. 30, Stimpson Avenue, Northampton. Student, University College, Nottingham. *Signed by* : D. O. Jordan, John E. Still, C. C. Addison.
- Tompkins, Frederick Clifford,** B.Sc. and Ph.D. (Bristol). English. Department of Chemistry, King's College, W.C. 2. I.C.I. Research Fellow (University of London). Assistant Editor, Faraday Society Transactions. *Signed by* : D. H. Hey, A. J. Allmand, D. W. G. Style.
- *Tulip, Alan.** English. 1, Luxmoore Avenue, Willington. Student, University College, Durham. *Signed by* : G. H. Christie, C. W. Gibby, F. A. Paneth.
- *Vipond, Hilton James.** British. 12, Russell Terrace, Birtley. Student, University of Durham. *Signed by* : Richard Raper, Joseph Weiss, Wesley Cocker.
- *Watt, Peter Ridgway.** British. Chemistry Department, The University, Woodland Road, Bristol. Student. *Signed by* : C. E. H. Bawn, T. Malkin, W. Baker.
- Whitaker, Donald Robert,** B.Sc.Hons. (Manitoba). Canadian. London House, Guilford Street, W.C. 1. Student, London School of Hygiene and Tropical Medicine. *Signed by* : H. Raistrick, S. E. Michale, J. H. Birkinshaw.
- *Williams, Doreen Margaret,** B.Sc. (Lond.). British. 81, Elmsleigh Avenue, Kenton, Harrow. Chemist. *Signed by* : Leslie H. Lampitt, E. B. Hughes, G. E. Forstner.
- *Willis, John Bryan,** M.Sc. (Sydney), A.A.C.I. British. London House, Guilford Street, W.C. 1. Research Student, University College, London. *Signed by* : S. Sugden, C. K. Ingold, C. A. Bunton.
- Wrench, Frederick,** M.Sc. (L'pool). British. Bona Vista, Callington Road, Tavistock. Chemistry Master, Tavistock Grammar School. *Signed by* : A. McGookin, E. Tittensor, W. R. Smithies.
- *Wyatt, Peter Arthur Harris,** B.Sc. (Wales). British. 51, Mount Pleasant, South Ruislip. Research Student. *Signed by* : C. W. Davies, J. B. Bowen, Kurt Heller.

UNDER SPECIAL PROVISION APPERTAINING TO CANDIDATES RESIDENT ABROAD.

- Enos, Herman Isaac, Jr.,** A.B. and M.S. (Southern California), Ph.D. (Illinois). American. Department of Chemistry, Swarthmore College, Swarthmore, Pa. Instructor in Chemistry. *Signed by* : H. Jermain Creighton.
- Cupr, Vaclav,** R.N.Dr. (Brno). Czech, Kounicova 63, Brno. Professor at Masaryk University. *Signed by* : J. Heyrovsky.
- Curtin, David Yarrow,** Ph.D. (Illinois). American. Department of Chemistry, Columbia University, New York, N.Y. Instructor in Chemistry. *Signed by* : Louis P. Hammett.
- Molinari, Arthur.** Swiss. 46 Beckenhofstr., Zurich 6. Student of Chemistry at the Swiss Federal Institute of Technology, Zurich. *Signed by* : L. Ruzicka.

- Prins, Daniel August**, Ph.D. (Basle), Dipl.Ing.Chem. E.T.H. (Zurich). Dutch. Institut de Médecine et de Chirurgie Experimentales, Université de Montreal, Montreal. Assistant professor, University of Montreal. *Signed by* : C. W. Shoppee, G. A. R. Kon.
- Schilling, Robert Simon**, D.Phil. (Bern). Swiss. Villa Bocksriet, Schaffhausen. Consulting Chemist. *Signed by* : Frederic L. Goodall.
- Stevens, René Adrien**, Dr.Chem. (Brussels). Belgian. 18, Jan Blockxstraat, Antwerp. Chief of the Patent and Information Service of Gevaert Photo-Producten N.V., Mortsel-Antwerp. *Signed by* : W. Mund.
- Stirnemann, Ernst**, Dr. of Natural Sciences (Zurich). Swiss, c/o Lonza Electric and Chemical Works, Ltd., Aeschenvorstadt 72, Basel. Chief Chemist. *Signed by* : T. Reichstein, C. W. Shoppee.

* Reduced annual subscription.

PAPERS RECEIVED

List of papers received between October 18th, 1946, and November 20th, 1946. (This list does not include the titles of papers which have been read at a Scientific Meeting or which have appeared in the *Journal*.)

- "Some heterocyclic methylene bases and their anilomethyl derivatives." By F. M. HAMER, R. J. RATHBONE, and B. S. WINTON.
- "Some reactions and derivatives of the 6- and 7-nitro-2-naphthylamines. Part II. Nitration and diazo-coupling." By H. H. HODGSON and E. R. WARD.
- "A synthesis of cytidine." By G. A. HOWARD, B. LYTHGOE, and A. R. TODD.
- "3-Deoxy-1-xylose." By S. MUKHERJEE and A. R. TODD.
- "Some *O*-alkyl- and *OO'*-alkylene-hydroxylamines and -hydroxyguanidines." By A. T. FULLER and H. KING.
- "The preparation, properties, and chlorination products of carbon diselenide." By D. J. G. IVES, R. W. PITTMAN, and W. WARDLAW.
- "Substituted benzoic acids and benzophenones." By A. H. FORD-MOORE.
- " β -Phellandrene tetrabromide." By P. A. BERRY and A. K. MACBETH.
- "Studies on the alkylation of aromatic amines. Part II. The vapour-phase methylation of *N*-methylaniline by methanol in the presence of an alumina catalyst." By J. C. EARL and N. G. HILLS.
- "Infra-red spectrum and structural diagnosis: substituted carbazoles." By R. E. RICHARDS.
- "Activating influence of para groups on the lability of chlorine in chlorobenzenes." By G. M. BADGER, J. W. COOK, and (MISS) W. P. VIDAL.
- "An improved preparation of 1:8-dinitronaphthalene." By H. H. HODGSON and E. R. WARD.
- "Symmetrical tricarbocyanines having one or more methyl groups as substituents on the chain." By F. M. HAMER and R. J. RATHBONE.
- "The synthesis of 3-methyl and 3:5-dimethyl *l*-arabinose." By E. L. HIRST, J. K. N. JONES, and (MISS) E. WILLIAMS.
- "The constitution of egg-plum gum. Part I." By E. L. HIRST and J. K. N. JONES.
- "Molecular rearrangement and displacement of arylamine residues in α -arylamino-ketones. Part I." By R. M. COWPER and T. S. STEVENS.
- "Desoxypentose nucleic acids. Part I. Preparation of the tetrasodium salt of the desoxypentose nucleic acid of calf thymus." By J. M. GULLAND, D. O. JORDAN, and C. J. THRELFALL.
- "Desoxypentose nucleic acids. Part II. Electrometric titration of the acidic and basic groups of the desoxypentose nucleic acid of calf thymus." By J. M. GULLAND, D. O. JORDAN, and H. F. W. TAYLOR.
- "Desoxypentose nucleic acids. Part III. Viscosity and streaming birefringence of solutions of the sodium salt of the desoxypentose nucleic acid of calf thymus." By J. M. CREETH, J. M. GULLAND, and D. O. JORDAN.
- "The crystal structure of the orthorhombic modification of 1:2:5:6-dibenzanthracene. A quantitative X-ray investigation." By J. M. ROBERTSON and J. G. WHITE.
- "Addition of dinitrogen tetroxide to olefins. Part IV. The butylenes." By N. LEVY, C. W. SCAIFE, and A. E. WILDER SMITH.
- "Addition of dinitrogen tetroxide to olefins. Part V. *cyclo*Hexene and the octylenes." By N. LEVY and C. W. SCAIFE.
- "Photochemical reactions in sunlight. Part XII. Reactions with phenanthraquinone, 9-aryl-xanthenes, and diphenyl triketone." By A. SCHÖNBERG and A. MUSTAFA.
- "Spectroscopic studies of the amide linkage." By R. E. RICHARDS and H. W. THOMPSON.

- “Vibrational spectra of phenolic derivatives and phenolic resins.” By R. E. RICHARDS and H. W. THOMPSON.
- “Tetrahydroacridones and related compounds as antimalarials.” By (Miss) J. M. L. STEPHEN, (Miss) I. M. TONKIN, and J. WALKER.
- “The hydrogenation of furfural to furfuryl alcohol and sylvan.” By J. G. M. BREMNER and R. K. F. KEEYS.
- “The relation of yttrium to the rare earths. A study of molecular volumes.” By J. K. MARSH.
- “Penta- and hexa-phenylene structures.” By W. S. RAPSON.
- “Course of cyclisation in the formation of alicyclic rings. Part I. Effect of alkyl groups on the cyclisation of esters of polycarboxylic acids.” By R. N. CHAKRAVARTI.
- “The constitution of cherry gum. Part II.” By J. K. N. JONES.
- “The crystal and molecular structure of certain dicarboxylic acids. Part III. Diacetylenedicarboxylic acid dihydrate.” By J. D. DUNITZ and J. M. ROBERTSON.
- “The minor alkaloids of *Duboisia myoporoides*. Part IV. Valeroidine.” By W. MITCHELL and E. M. TRAUTNER.
- “The constitution of ψ -santonin. Part IV. A study of the butenolide system.” By W. COCKER and S. HORNSBY.
- “ Δ^2 -*cyclo*Hexenones from 2-methylpyridines.” By A. J. BIRCH.
- “Olefinic acids. Part II. The reactivity of α -bromoacrylic acid and some related compounds.” By L. N. OWEN and H. M. BABATUNDE SOMADE.
- “Theory of chromatography. Part II. Chromatograms of single solutes.” By E. GLUECKAUF.
- “Theory of chromatography. Part III. The influence of incomplete equilibrium on the front-boundary of chromatograms and on the effectiveness of separation.” By E. GLUECKAUF and J. I. COATES.
- “Theory of chromatography. Part IV. Separation of two solutes following an isotherm of the Langmuir type.” By J. I. COATES and E. GLUECKAUF.
- “Theory of chromatography. Part V. Separation of two solutes following a Freundlich isotherm.” By E. GLUECKAUF.

THE CHEMICAL SOCIETY

SCIENTIFIC MEETINGS DURING FEBRUARY, 1947

LONDON.

Thursday, February 6th, 1947, at 7.30 p.m.

Tilden Lecture, **The Application of Surface Chemistry to Colloidal Problems**, by Dr. A. E. Alexander, B.Sc.

Thursday, February 20th, 1947, at 7.30 p.m.

The following papers will be read and discussed :

“ The reduction of oxides by hydrogen and carbon monoxide,” by W. E. Garner.*

“ The photochemical polymerisation of vinyl acetate vapour ”, and “ Radical sensitised polymerisation of vinyl acetate vapour ”, by H. W. Melville and R. F. Tuckett.*

ABERDEEN.

Friday, February 28th, 1947, at 7.30 p.m.

Lecture, **Grinding and Size Reduction : Some Problems Met in the Fertiliser Industry**, by Mr. R. H. Calvert.

Joint meeting with the local section of the Royal Institute of Chemistry and the Society of Chemical Industry, to be held in the Chemistry Department, Marischal College.

BIRMINGHAM.

Friday, February 21st, 1947, at 4 30 p.m.

Lecture, **Surface Chemistry and Colloids**, by Dr. A. E. Alexander, B.Sc., to be held in the Chemical Lecture Theatre of the University.

BRISTOL.

Thursday, February 13th, 1947, at 2.15 p.m.

Discussion and Official Meeting of the Society. “ **Protein Chemistry.**”

Contributors will include Professor J. D. Bernal, Professor A. C. Chibnall, Dr. G. R. Tristram, Dr. R. A. Kekwick, and Dr. J. A. V. Butler. To be held in the Chemical Department of the University.

EDINBURGH.

Thursday, February 20th, 1947, at 7.30 p.m.

Lecture, **Fluorescence**, by Dr. N. Campbell.

Joint meeting with the local sections of the Royal Institute of Chemistry and Society of Chemical Industry, to be held in the North British Station Hotel.

EXETER.

Friday, February 21st, 1947, at 4.30 p.m.

Lecture, **Some Reactions of Free Radicals**, by Dr. W. A. Waters, M.A., F.R.I.C.

To be held at Washington Singer Laboratories.

GLASGOW.

Friday, February 21st, 1947, at 7 p.m.

Annual General Meeting of Local Section followed by the reading of original papers.

To be held in the Royal Technical College, Glasgow.

* To read paper.

LEEDS.

Tuesday, February 25th, 1947, at 5 p.m.

Display of Scientific Films followed by a Lecture at 6.30 p.m., **The Chemistry of Penicillin**, by Professor Wilson Baker, M.A., D.Sc., F.R.S.

To be held in the Chemistry Lecture Theatre of the University.

LIVERPOOL.

Thursday, February 20th, 1947, at 5 p.m.

Lecture, **Recent Developments in the Chemistry of Starch and Glycogen**, by Professor E. L. Hirst, M.A., D.Sc., F.R.S.

To be held in the Chemistry Lecture Theatre of the University.

Thursday, February 27th, 1947, at 7 p.m.

Lecture, **The Complete Analyst**, by Mr. R. C. Chirnside, F.R.I.C.

Joint meeting with the local sections of the Royal Institute of Chemistry, the Society of Chemical Industry, and the British Association of Chemists to be held in the Chemistry Lecture Theatre of the University.

MANCHESTER.

Thursday, February 13th, 1947, at 7.30 p.m.

Lecture, **Some Aspects of the Chemistry of Fluorocarbons**, by Professor M. Stacey, D.Sc., Ph.D., F.R.I.C.

Joint meeting with the local section of the Royal Institute of Chemistry to be held in the Chemistry Department of the University.

NEWCASTLE and DURHAM.

Friday, February 14th, 1947, at 5 p.m.

Bedson Club Lecture, **Some Aspects of Solid Reactions**, by Professor W. E. Garner, C.B.E., D.Sc., F.R.S.

To be held at King's College, Newcastle-on-Tyne, and all Fellows are invited.

NORTHERN IRELAND.

Tuesday, February 4th, 1947, at 7.30 p.m.

Lecture, **Methods and Apparatus in Inorganic Microchemistry**, by Mr. R. Belcher, F.R.I.C., and Dr. C. L. Wilson, M.Sc., F.R.I.C.

Joint meeting with the local section of the Royal Institute of Chemistry to be held in the Chemical Lecture Theatre, Queen's University, Belfast.

NOTTINGHAM.

Thursday, February 20th, 1947, at 7 p.m.

Lecture, **Crystal Analysis and Stereochemistry**, by Professor E. G. Cox, D.Sc.

To be held in the Large Chemistry Theatre of University College.

ST. ANDREWS and DUNDEE.

Thursday, February 20th, 1947, at 4.30 p.m.

Lecture, **Diffusion in High Polymer Systems**, by Dr. G. S. Hartley.

To be held in the Chemistry Department, University College, Dundee.

SHEFFIELD.

Thursday, February 13th 1947, at 5.30 p.m.

Lecture, **Bond Lengths in Aromatic Hydrocarbons**, by Professor J. Monteath Robertson, M.A., D.Sc., F.R.S.

Joint meeting with the University Chemical Society to be held in the Chemistry Lecture Theatre of the University.

Thursday, February 20th, 1947, at 5.30 p.m.

Lecture, **The Study of Antibiotics**, by Professor Sir Howard W. Florey, M.B., M.A., Ph.D., F.R.S.
To be held in the Chemistry Lecture Theatre of the University.

Thursday, February 27th, 1947, at 5.30 p.m.

Lecture, **Homolytic Reactions**, by Professor D. H. Hey, D.Sc., Ph.D., F.R.I.C.
Joint meeting with the University Chemical Society to be held in the Chemistry Lecture Theatre of the University.

SOUTHAMPTON.

Friday, February 21st, 1947, at 5 p.m.

Lecture, **The Chemistry of Vitamin A**, by Professor Sir Ian Heilbron, D.S.O., D.Sc., F.R.S.
Joint meeting with the University College of Southampton Chemical Society to be held in the Physics Lecture Theatre of University College.

SOUTH WALES.

Friday, February 7th, 1947, at 6.45 p.m.

Lecture, **Structural Inorganic Chemistry**, by Professor W. Wardlaw, D.Sc., F.R.I.C.
Joint meeting with the Local Sections of the Royal Institute of Chemistry and the Society of Chemical Industry to be held at University College, Cardiff.

PROCEEDINGS
OF THE
CHEMICAL SOCIETY.

**Minutes of a
SCIENTIFIC MEETING**

held at Burlington House, Piccadilly, W.1, on Thursday, December 5th, 1946, at 7.30 p.m.

The President, Professor C. N. Hinshelwood, Sc.D., F.R.S., was in the Chair.

MINUTES.

The Minutes of the Scientific Meeting held on Thursday, November 21st, 1946, were read, and were confirmed and signed.

FORMAL ADMISSION OF FELLOWS.

The following were admitted Fellows of the Chemical Society: P. A. Jenkins, P. F. Onyon, C. G. Sumner, T. C. Shaw, W. J. T. Wilkinson, K. B. W. Jones, P. W. Kent, J. M. Osbond, J. R. Chalmers, H. Schweitzer, R. T. Fowler, A. H. Howland, L. A. Allen.

TILDEN LECTURE.

The President called on Professor M. Stacey, D.Sc., Ph.D., F.R.I.C., to deliver his Tilden Lecture, entitled "Macromolecules Synthesised by Micro-organisms."

At the conclusion of the Lecture, Professor Wilson Baker proposed a vote of thanks to the Lecturer, which was carried with acclamation.

**Minutes of a
SCIENTIFIC MEETING**

held at the Royal Institution, Albemarle Street, W.1, on Wednesday, December 18th, 1946, at 7.30 p.m.

The President, PROFESSOR C. N. HINSHELWOOD, Sc.D., F.R.S., was in the Chair.

The PRESIDENT expressed the appreciation of the Society to the Managers of the Royal Institution for the use of their Theatre on this occasion. He then welcomed the Presidents of the Royal Institute of Chemistry and the Society of Chemical Industry who were present.

MINUTES.

The Minutes of the Scientific Meeting held on Thursday, December 5th, 1946, were read, and were confirmed and signed.

FORMAL ADMISSION OF PROFESSOR HAROLD C. UREY, D.Sc., Ph.D.

Professor Harold C. Urey, an Honorary Fellow of the Society, was formally admitted.

LIVERSIDGE LECTURE.

After a brief introduction, in which the President referred to the terms of the Liversidge Lecture bequest and to Professor Urey's achievements in chemistry, he called on Professor Urey to deliver his Liversidge Lecture entitled "Some Problems in the Separation of Isotopes."

At the conclusion of the Lecture the vote of thanks to Professor Urey proposed by Professor S. Sugden, D.Sc., F.R.S., was carried with acclamation.

**Minutes of a
SCIENTIFIC MEETING**

**held in the Biochemistry Lecture Theatre, The University, Teviot Place, Edinburgh, on Thursday,
December 19th, 1946, at 5.30 p.m.**

(Prior to the Meeting a reception to the Society was given by Sir John Fraser, Vice-Chancellor and Principal of the University, in the Upper Library Hall of the University.)

PROFESSOR J. W. COOK, D.Sc., F.R.S., Vice-President, was in the Chair.

In opening the Meeting, the Chairman expressed the gratitude of the Society to Sir John Fraser and the Court of the University for acting as Hosts to the Society. Professor Cook also referred to Joseph Black's Chair, which was loaned for the occasion of the meeting.

FORMAL ADMISSION OF FELLOWS.

The following were admitted Fellows of the Society : J. W. Minnis, R. J. Benzie, E. G. V. Percival, F. N. Woodward, A. G. Mitchell, G. E. Dodds, F. J. Bolton, H. E. Watt, A. MacKinnon, J. C. Patek, R. C. Mackenzie, W. I. H. Winning, H. D. Macmurray, W. S. Sim, A. L. Martin, M. A. Murray, W. O. Kermack, A. B. Roy, J. S. Wilkie, R. Lind, K. C. Reid, A. A. Woodham, A. Mackie.

LIVERSIDGE LECTURE.

After a brief introduction in which he recalled Professor Urey's distinguished career in chemistry and dealt briefly with the terms of the bequest of the Liversidge Lecture, the Chairman called upon Professor Urey to deliver his Liversidge Lecture, entitled "Some Problems in the Separation of Isotopes."

At the conclusion of the Lecture, the Chairman invited Professor J. Kendall, M.A., D.Sc., F.R.S., to propose the vote of thanks which was carried with great enthusiasm and acknowledgment was made by Professor Urey.

OFFICIAL ANNOUNCEMENTS

DEATHS.

The Council regret to announce the deaths of the following Fellows :

	Elected.	Died.
Pierce Alfred Arnold (Morden)	Dec. 6th, 1917	Nov. 25th, 1946
Dorothy Jordan-Lloyd (S.E. 1)	May 4th, 1933	Nov. 21st, 1946
Charles George Matthews (Borth)	June 16th, 1876	Nov. 10th, 1946
William Henry Roberts (Liverpool)	Oct. 16th, 1941	Nov. 16th, 1946

CONGRATULATIONS.

Congratulations have been conveyed to the following Fellows who have completed 60 years of Fellowship :

	Elected.
Leslie Pyke (S.W. 1)	December 2nd, 1886
Francis James Henderson Coutts (Birmingham)	December 16th, 1886
Stephen James Pentecost (Nottingham)	December 16th, 1886

and to the following who have completed 50 years of Fellowship :

	Elected.
Arthur Croft Hill (S.W. 7)	December 3rd, 1896
Charles Alexander Hill (W. 1)	December 3rd, 1896
Alexander Henry Mitchell Muter (Horley)	December 3rd, 1896

The following Fellows have also been congratulated by the Council on being awarded Medals by the Royal Society :

Sir Alfred C. G. Egerton	Rumford Medal
Professor C. K. Ingold	Davy Medal

VACANCIES ON COUNCIL.

The names of the members of Council who retire at the next Annual General Meeting are as follows :

Vice-Presidents who have not filled the Office of President : Mr. E. J. BOWEN.

Elected Ordinary Members of Council :

Constituency I (South-East England). Dr. M. P. BALFE and Dr. E. R. H. JONES.
 Constituency II (Central and South-West England and South Wales). None.
 Constituency III (North-West England, North Wales, and the Isle of Man). None.
 Constituency IV (North-East England). Dr. M. P. APPLEBEY and Professor L. HUNTER.
 Constituency V (Scotland).

The above are ineligible for the same office until after the lapse of one year. In accordance with Bye-Law 42, the Council, in October, 1946, invited Dr. F. E. King to fill until the next Annual General Meeting the vacancy caused by the retirement of Professor R. J. W. Le Fèvre under Bye-Law 56, and creates an additional vacancy in Constituency I. Dr. F. E. King is eligible for re-election in this constituency.

NOTICE is hereby given that in accordance with the Bye-Laws the following vacant places in the Council fall due to be filled at the Annual General Meeting to be held in London on March 20th, 1947.

Vice-Presidents who have not filled the office of President *One vacancy.*

Elected Ordinary Members of Council :

Constituency I (South-East England)..... *Three vacancies.*
Constituency II (Central and South-West England and South Wales) *No vacancies.*
Constituency III (North-West England, North Wales, and Isle of Man) *No vacancies.*
Constituency IV (North-East England) *Two vacancies.*
Constituency V (Scotland) *No vacancies.*

Nominations by Fellows for the office of Vice-President should be made in writing **signed by at least twenty Fellows.**

Fellows resident in a constituency may nominate any Fellow resident in that constituency for election to the Council to fill a vacancy among Elected Ordinary Members of Council allotted to that constituency. Every such nomination must be in writing **signed by at least fifteen Fellows resident in that constituency.**

Every nomination must relate to one vacant place only, and must be accompanied by a signed declaration by the nominee that he is willing to accept office, if elected.

All nominations must be received by the Honorary Secretaries at the Society's Rooms not later than **Friday, February 14th, 1947.**

Forms of nomination can be obtained on application to the General Secretary. Applicants should indicate the vacancy for which the form is required.

Fellows are also being notified of these vacancies in a separate notice.

RESEARCH GRANTS.

The Council has made the following grants from the Research Fund :

Belfast, Queen's University.

	£	s.	d.
R. G. R. Bacon. " Aldehyde Formation "	15	0	0

Cambridge, Department of Physical Chemistry.

J. N. Agar. " Electro-chemical reduction O ₂ and H ₂ O ₂ "	10	0	0
F. S. Dainton. " Photochlorination "	30	0	0
K. J. Ivin. " Kinetics of gas and liquid phase reactions initiated by radicals of short life "	12	0	0

Dublin, Trinity College.

W. A. Boggust. " Study of Benzthiazole chemistry "	10	0	0
C. Lipman. " Chemistry of Santonin "	35	0	0

Dundee, University College.

K: C. Reid. " Preparation of furoins and hydrofuroins "	20	0	0
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Leeds, University.

E. Rothstein. " Influence of sulphur in tautomerism "	20	0	0
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<i>London, Imperial College.</i>											
D. H. R. Barton.	" Studies in steroid chemistry "	20	0	0	
<i>London, King's College.</i>											
L. Crombie.	" Olefinic Acids "	...	...	...	...	...	...	20	0	0
<i>London, Queen Mary College.</i>											
H. H. Neville.	" Thermal decomposition of carbonyl sulphide "	...	...	...	...	...	...	15	0	0
J. F. Williams.	" Formaldehyde Water System "	...	...	...	...	...	...	10	0	0
<i>London, Royal Holloway College, Englefield Green.</i>											
G. Williams.	" Mechanism of polymerisation processes "	...	...	...	...	...	...	10	0	0
<i>London, St. Mary's Hospital.</i>											
S. Jacobs.	" Hydration of nitrocellulose films "	...	...	...	...	...	...	15	0	0
<i>London, Private Laboratory.</i>											
M. A. Phillips.	" Antibacterial activity of certain quaternary ammonium salts "	...	...	...	...	...	...	10	0	0
<i>Oxford, Inorganic Chemistry Laboratory.</i>											
F. M. Brewer.	" Geochemical association of elements "	...	...	...	...	...	...	30	0	0
J. W. Linnett.	" Specific heats of gases "	...	...	...	...	...	...	40	0	0
<i>Southampton, University College.</i>											
N. B. Chapman.	" Reactivity of halogen atoms in nitro-halopyridines and halopyrimidines "	...	...	...	...	...	...	20	0	0
<i>Swansea, University College.</i>											
E. E. Ayling.	" Dihydroresorcinols "	...	...	...	...	...	...	9	0	0
<i>Whitby, The Grammar School.</i>											
E. L. Shimmin.	" Substitution products of γ -pyrene "	...	...	...	...	...	...	8	0	0
								<hr/>	£359	0	0

ELECTION OF NEW FELLOWS.

The following 45 Candidates were elected Fellows of the Society on December 5th, 1946 :

Peter James Seymour Barry.	Mavis Pauline Garwood.	Geoffrey Mayhew.
Gerald Torkington Bassil.	Frank Henry Geake.	Antony Nechvatal.
Albert Battersby.	Joseph Glazer.	William John Peal.
David Roland Wagstaffe Bell.	Brian Stanley Goringe.	Walter Pilnik.
John Atkinson Bennett.	Bishwanath Prasad Gyani.	Witold Zenon Poklewski-Koziell.
Leonard Thomas Butt.	Alexander Haddow.	Austin Charles Riddiford.
David George Carter.	Graham John Hills.	William Robertson.
Louis Chardonnens.	George William Grahame Jackman.	Hendrik Egbert Slaap.
Eric Bentley Crosland	George John Janz.	Austin Robert Tatchell.
Dimitre Ivanoff Daleff.	Bohdan Jelinek.	David Alexander Harrison Taylor.
John Tasman Davies.	Neville Douglas Lee.	Raymond Stanley Theobald.
James Eric Day.	Harold Samuel Lilley.	Cyril Thompson.
Robert Pickeman Dryden.	John Alexander Low.	Bal Dattatraya Tilak.
John Molyneux Fletcher.	Ronald Andrew McAllister.	Marjorie Treadgold.
James Eric Garside.	Francis Finlay McNaughton.	Victor Daniel Tyrrell.

CENTENARY CELEBRATIONS, 1947.

The Provisional Programme of the Centenary Celebrations to be held in London in July 1947 will be circulated to all Fellows before the end of January 1947.

MEETING OF COUNCIL.

A meeting of Council was held on Thursday, December 5th, 1946. The Report of the Publication Committee (December 5th) was adopted, and it was agreed to act on the recommendation that the International Committee of Atomic Weights be asked to give consideration to the desirability of basing the published atomic weights on the physical atomic weight of oxygen.

The Report of the Joint Library Committee (November 27th) was received, and it was learned with

profound regret that there had been a serious loss of books from the Library during the previous few months, and the Council reluctantly agreed to take certain steps to prevent such further losses. It was also agreed to request the Scientific Committee for Germany to take steps to ensure that the highest priority is given to the Society's Library in the allocation of chemical literature brought from Germany.

Contributions towards the cost of maintenance of the Library, in accordance with existing agreements, from the Faraday Society, the Society of Public Analysts, and the British Association of Chemists were noted and acknowledgment made. Gifts from Mr. D. R. Lawson and Mr. E. H. T. Jukes to the Centenary Fund were also noted with pleasure.

The resignation of Dr. D. C. Martin as General Secretary was received with regret. Action to appoint a successor was considered.

The Report of the Centenary Executive Committee (November 7th) giving further details of the programme for the forthcoming Centenary Celebrations was adopted.

The resignation of Professor Brynmor Jones as Local Representative for Sheffield was accepted with much regret, and Dr. A. H. Lamberton was invited to take up this appointment.

The Report of the Research Fund Committee (November 21st) was adopted and grants from the Research Fund amounting to £359 were approved.

45 Candidates for Fellowship were elected Fellows of the Society.

Certain formal and financial items were transacted.

GERMAN BOOKS ON CHEMICAL AND COGNATE SUBJECTS.

The Chemical Council has printed in pamphlet form a limited number of a List of German books on Chemical and Cognate Subjects published from 1939 to 1946, compiled by Dr. Hamilton McCombie, D.S.O., M.C., M.A., and Mr. A. E. Cummins, Librarian of the Chemical Society.

A copy will be forwarded to any Fellow or member of any other Society represented on the Chemical Council, free of charge, on application to the Acting Secretary of the Chemical Council, 9/10, Savile Row, London, W.1.

DR. G. M. DYSON'S LECTURE "A NEW NOTATION FOR ORGANIC CHEMISTRY."

The Lecture on "A New Notation for Organic Chemistry and its Application to Library and Indexing Problems," delivered by Dr. G. Malcolm Dyson at the London School of Hygiene and Tropical Medicine on October 21st, 1946, under the joint auspices of the Chemical Society, the Royal Institute of Chemistry, the Society of Chemical Industry, and the Bureau of Abstracts, has been published by the Royal Institute of Chemistry. The Institute is sending copies to all its Fellows, Associates, and Registered Students, and has also presented to the two Societies copies for distribution, free of charge, among those of their members who will not receive one from the Institute.

In order to avoid wastage through duplication of issues, Fellows who wish to receive a copy of this Lecture are asked to make application to the General Secretary.

Any member of one or more of the three Chartered Chemical Bodies who requires more than one copy may obtain additional copies at 2s. 6d. each, post free, on application by post to the Assistant Secretary, Royal Institute of Chemistry, 30, Russell Square, London, W.C.1.

PUBLICATIONS.

Copies of the *Journal* for 1943 and 1944, particularly for the months of January, September, October, November, and December 1943, and of the *Annual Reports* for 1941, 1942, and 1943 are urgently required for distribution to Fellows who lack these issues. Fellows who have these issues and who do not wish to retain them are invited to return them to the General Secretary who will refund cost of carriage.

PUBLICATIONS OF THE AMERICAN CHEMICAL SOCIETY.

	Price to Public.	Postage.
(1) <i>Journal of the American Chemical Society</i>	\$8.50	\$1.50
(2) <i>Chemical Abstracts</i>	\$12.00	\$2.40
(a) Industrial Edition (monthly) and Analytical Edition (monthly), sold only as a unit	\$4.00	\$2.25
(b) Chemical and Engineering News (semi-monthly)	\$2.00	\$0.60
(a) and (b) together	\$6.00	\$2.85

A discount of 10 per cent. is allowed on (1) and (2) when sent to same address and ordered at the same time. No discount on (3).

A special discount of 10 per cent. off all the above prices (exclusive of postage) is allowed to Fellows of the Chemical Society who are not Members of the American Chemical Society.

Fellows residing in Canada pay one-third postage rates, and for those residing in countries in the Pan-American Union and Spain there is no charge for postage.

Application should be made direct to the Secretary, American Chemical Society, 1155, Sixteenth Street, N.W., Washington, D.C., U.S.A.

Chemical Reviews (bi-monthly, 2 vols per year) { \$4.00 per vol. } postage
 { \$7.00 per year } \$0.50 per vol.

Application should be made to the Williams and Wilkins Company, Mount Royal and Guilford Avenues, Baltimore, Md., U.S.A.

NOTE.—Permission to remit money abroad must be obtained through a Bank.

BRITISH STANDARDS INSTITUTION.

The following drafts of British Standards Specifications have been received for technical comment :

CH(FCC) 7793	Draft revised B.S.	553	—Ethyl Acetate.
" "	7791	" "	509—Acetone.
" "	7792	" "	551—Normal Butyl Acetate.

These have been placed in the Library, and Fellows wishing to make technical comments are requested to do so before March 4th, 1947, to the British Standards Institution, 28, Victoria Street, Westminster, London, S.W.1.

MEETINGS OUTSIDE LONDON.

ABERDEEN.

"Some Developments in the General Methods of Organic Chemistry," by Professor F. S. Spring, D.Sc., Ph.D.

A Joint Meeting with local sections of the Royal Institute of Chemistry and the Society of Chemical Industry was held at Marischal College, Aberdeen, on November 29th, 1946.

Professor Spring indicated that the development of the microbalance and micro-analytical methods rendered possible the examination of substances, mainly of animal origin, which were available only in very small quantities.

After mentioning modern developments in distillation, crystallisation, and sublimation techniques, he emphasised the use of chromatography as a qualitative and quantitative analytical method.

Among reaction methods, he dealt particularly with the use of Raney nickel as a hydrogenating and desulphurising agent.

EDINBURGH.

"Some Developments in the General Methods of Organic Chemistry," by Professor F. S. Spring, D.Sc., Ph.D.

A Joint Meeting with the Local Sections of the Royal Institute of Chemistry and Society of Chemical Industry was held in the North British Station Hotel, Edinburgh, on November 21st, 1946, with Dr. E. G. V. Percival in the Chair. Professor Spring discussed methods of separating mixtures using chromatography, ion exchange resins, and counter-current distribution, and, on the preparative side, the use of Raney nickel in hydrogenolysis of carbon-sulphate linkages. After a general discussion Dr. Neil Campbell proposed a vote of thanks which was carried with enthusiasm.

EIRE.

"Biochemical Microtechnique," by Dr. T. G. Brady.

A Joint Meeting with the local section of the Royal Institute of Chemistry was held in the Department of Chemistry, University College, Dublin, on November 20th, 1946, Professor T. S. Wheeler, Local Representative, being in the Chair. Dr. Brady described the use of various types of colorimetric, photometric, and electrometric apparatus and also discussed the microdiffusion technique which has been developed in recent years in Professor E. J. Conway's laboratories in University College, Dublin.

"Isotopes," by Professor Harold C. Urey, D.Sc., Ph.D.

A meeting of the Society was held in the Department of Chemistry, University College, Dublin, on December 9th, 1946; Professor T. S. Wheeler, Local Representative, presided; Professor

Urey read a most interesting paper to a large audience which included Mr. De Valera, the Prime Minister.

Professor Urey discussed the use of the mass spectrometer in a new method for following the course of gas reactions. He dealt in detail with the results obtained in a study of the thermal decomposition of dimethyl ether, and stressed the further possibilities of the new technique.

The vote of thanks, which was proposed by Mr. J. W. Parkes and seconded by Dr. T. E. Nevin, was passed with acclamation.

EXETER.

"Structural Inorganic Chemistry," by Professor W. Wardlaw, D.Sc., F.R.I.C.

A meeting was held at University College, on November 25th, 1946. The Lecturer's explanation of the way in which the law of constant proportions may break down owing to vacant lattice positions (as in Fe_3) excited much interest, as did his description of modern work on the structure of phosphorus pentachloride, of the carbonyls, and of the oxyacids. The importance of ionic radii and of polarisation in determining the lattice structures of inorganic compounds was also stressed. The picture left in the minds of the audience was that of a growing subject where, though much has been accomplished, a mass of important and intriguing problems await further investigation.

GLASGOW.

Ramsay Chemical Dinner.

The Society was represented by Sir Ian Heilbron, Vice-President, at the Ramsay Chemical Dinner, which was held in Marlborough House, Glasgow, on December 6th, 1946. Sir Steven Bilsland, Bt., as Chairman, proposed the Memory of Sir William Ramsay. "The Profession of Chemistry" was proposed by Sir Jack Drummond, and Dr. Lampitt replied. Other speakers on the Toast List were the Lord Provost of Glasgow (Sir Hector McNeill), Sir Ian Heilbron, Mr. H. Talbot, Dr. Cranston, and Dr. McDavid.

LEEDS.

"Isotopes," by Professor Harold C. Urey, D.Sc., Ph.D.

A meeting of the Society was held on December 16th, in the Chemistry Department, University of Leeds, with Professor R. W. Whytlaw-Gray, F.R.S., in the Chair. The Lecturer dealt with the application of the mass spectrometer to the investigation of gaseous reactions, and at the conclusion of the lecture replied to questions dealing with the operation of the apparatus. A vote of thanks proposed by Professor F. Challenger and seconded by Dr. W. Wild was carried with acclamation.

MANCHESTER.

Meeting for the reading of original papers.

A meeting of the Society was held on December 12th, in the Chemistry Department of the University. The following papers were read and discussed:

"A New Reaction of Thiocyanic Esters," by E. Hoggarth and W. A. Sexton.

"The Separation of Amylose and Amylopectin," by R. S. Higginbotham and G. A. Morrison.

"Peanut Araban," by Professor E. L. Hirst, F.R.S., and Dr. J. K. N. Jones.

NORTH WALES.

"Nitration in Sulphuric Acid Solution," by Dr. G. M. Bennett, M.A., F.R.I.C.

A Joint Meeting with the University College of North Wales Chemical Society and the University of Liverpool Chemical Society was held at University College of North Wales, Bangor, on November 21st, 1946, Mr. J. C. Charlton being in the Chair. The mutual action of nitric and sulphuric acids and the nature of the active nitrating agent were discussed. The mechanism of nitration of dinitrotoluene in a wide range of acid mixtures extending into fuming sulphuric acid was explained. Following a short discussion, Professor E. D. Hughes proposed and Mr. Mills seconded a vote of thanks which was heartily accorded by the large and appreciative audience.

SHEFFIELD.

"Chemistry in the Metallurgical Industries," by Dr. C. H. Desch, F.R.S.

A Joint Meeting with South Yorkshire section of the Royal Institute of Chemistry, the Sheffield Metallurgical Association, and the University Chemical Society, was held in the Chemistry Lecture Theatre of the University on November 21st, 1946, Dr. R. A. Mott being in the Chair. Dr. Desch, in the course of a very interesting review of some of the chemical aspects of the metallurgical industries, dealt particularly with corrosion and the methods of preparing polished surfaces by electrolytic means. The lecture, which was particularly lucid, and well illustrated by slides, was greatly appreciated by a large audience, and a vote of thanks to the Lecturer proposed by Dr. T. B. Smith and seconded by Mr. Bull (President of the Sheffield Metallurgical Association), was carried with acclamation.

LIST OF APPLICATIONS FOR FELLOWSHIP.

(Fellows wishing to lodge objections to the election of these candidates should communicate with the Honorary Secretaries before January 31st, 1947. Such objections will be treated as confidential. The forms of application are displayed in the Library.)

- Andrews, John**, B.Sc.Hons. (Lond.), F.R.I.C. British. Roselea, Marlborough Road, Glenageary, Co. Dublin. Research Chemist. *Signed by* : J. W. Tullo, A. G. G. Leonard, T. S. Wheeler.
- ***Armstrong, William Guy**. British. 92, Rowlands Road, Worthing. Student, University College, Southampton. *Signed by* : S. H. Harper, K. R. Webb, Ishbel G. M. Campbell.
- Bamford, Harold Firth**, M.A. (Cantab.), A.R.I.C. British. Messrs. John Mackintosh & Sons, Ltd. (Caley Branch), Chapelfield Works, Norwich. Works Chemist. *Signed by* : John W. Corran, A. G. Lipscomb, H. M. Mason.
- ***Beisman, Geoffrey Michael**, Inter.B.Sc. (Lond.). British. 1, Hurstwood Road, Golders Green, N.W. 11. Student. *Signed by* : Guy G. S. Dutton, A. G. Lidstone, E. de Barry Barnett.
- Birch, Edmund John Huskisson**, M.A. (Oxon). British. The Vicarage, Enstone, Oxford. Student, Oxford University. *Signed by* : F. E. King, S. G. P. Plant, D. Ll. Hammick.
- Bonner, Trevor George**, B.Sc.Hons. (Lond.), A.R.I.C. British. 66, Fordbridge Road, Ashford. Research Chemist. *Signed by* : Gwyn Williams, A. G. Foster, M. M. T. Plant.
- Bowden, Kenneth**, B.Sc. and Ph.D. (Lond.), F.R.I.C., D.I.C. British. The Square, Harewood, nr. Leeds. Assistant Lecturer, Leeds University. *Signed by* : H. Burton, E. Rothstein, P. A. Briscoe.
- Bowen, Thomas John**, M.A. (Oxon). British. Jesus College, Oxford. Student. *Signed by* : Richard Barrow, J. C. Smith, C. J. Danby.
- ***Bradley, Donald Charlton**, B.Sc.Hons. (Lond.). British. 50, Granville Avenue, Feltham. Research Worker at British Electrical and Allied Industries Research Association. *Signed by* : R. W. Pittman, D. J. G. Ives, R. E. Bowman.
- ***Brealey, Graham John**. British. 120, Penkhull New Road, Stoke-on-Trent. Student, Manchester University. *Signed by* : A. E. Gillam, F. Fairbrother, Colin Campbell.
- ***Briggs, Geoffrey William Desmond**. British. 21, The Crescent, Longbenton, Newcastle-upon-Tyne 7. Student. *Signed by* : Wesley Cocker, P. L. Robinson, G. R. Clemo.
- ***Briscoe, James McKenzie**, B.Sc.Hons. (Lond.). British. 18, Merrivale, Southgate, N. 14. Development Chemist with Vandervell Products Ltd., Acton. *Signed by* : Henry Terry, C. K. Ingold, C. A. Bunton.
- ***Brown, Peter**, Inter.B.Sc. British. 17, Elm Grove, North Harrow. Assistant, Chemical Research Department, Glaxo Laboratories. *Signed by* : David O. Holland, L. F. J. Parker, J. Elks.
- Bull, Alfred John Urbane**, B.Sc. (Lond.), A.R.I.C. British. P.O. Box 1862, Nairobi, Kenya. Chief Chemist, East African Industrial Management Board, Nairobi, Kenya. *Signed by* : H. B. Stent, R. Leslie Collett, H. J. T. Ellingham.
- Button, Donald Frank Harrington**, A.R.C.S., F.R.I.C. British. 83, Elm Bank Gardens, Barnes, S.W. 13. Public Analyst, Borough of Southwark. *Signed by* : Cyril Dickinson, H. Amphlett Williams, R. G. Minors.
- ***Caine, Charles Vernon**, B.A. (Oxon). British. 36, Briscoe Drive, Moreton, Wirral. Research Chemist. *Signed by* : D. Ll. Hammick, G. D. Parkes, F. M. Brewer.
- ***Calderwood, John Alexander**, B.Sc. (Glas.), A.R.I.C. British. 264, Moss Lane East, Manchester, 14. Production Chemist. *Signed by* : I. E. Balaban, R. Mather, H. Stromberg.
- Callow, Ronald James**, B.Sc. (L'pool), A.R.I.C. British. 37, Wallasey Road, Wallasey. Research Chemist, Pilkington Bros., Ltd., St. Helens. *Signed by* : R. A. Sutton, H. Cole, L. Woods.
- ***Caunt, Anthony David**. British. 96, Bedale Road, Sherwood, Nottingham. Student, Oxford University. *Signed by* : A. S. Russell, C. N. Hinshelwood, H. W. Thompson.
- Chatfield, Herbert Walter**, B.Sc. and Ph.D. (Lond.), A.M.I.Chem.E., F.R.I.C. British. 23, Alington Grove, Wallington. Consulting Chemist. *Signed by* : H. G. Rains, Harry H. Topper, B. Dudley Sully.
- Choate, Matthew Francis Stephen**, B.Sc. (Dunelm), A.R.I.C. British. 7, Manchester Road, Pendlebury, Manchester. Technical Chemist. *Signed by* : Percy Chorley, P. Brightman, E. H. Rodd.
- Cohen, Nathan**. British. 11, Ashfield Road, Ellesmere Port, Wirral. Analytical Chemist. *Signed by* : A. French, G. Rose, W. T. Sedley.
- Coleman, Richard Norton**, B.Sc. and Ph.D. (Lond.), F.R.I.C. British. 28, Coten End, Warwick. Chemist. *Signed by* : C. C. Moss, K. R. Webb, E. Cartmell.
- Collett, Sam**, Ph.C. British. 126, New Queens Road, Sudbury. Analytical Chemist, Messrs. Stafford Allen & Sons, Ltd., Long Melford, Suffolk. *Signed by* : Wm. Mitchell, L. W. Ragg, H. M. Perry.
- ***Cooke, Alma Monica**, Inter.B.Sc. (Lond.). British. 292, Clarendon Park Road, Leicester. Pathological Laboratory Technician. *Signed by* : A. B. Meggy, L. Hunter, J. S. Whitehurst.

- Cooper, Arthur Thomas**, B.Sc. and Ph.D. (Lond.), A.R.I.C. British. The Yews, Beddingfield, Diss. Chemical Engineer. Signed by : R. Leslie Collett, G. Roche Lynch, H. J. T. Ellingham.
- ***Crosbie, George William**, B.Sc.Hons. (Glas.). British. 373, Castlemilk Road, Croftfoot, Glasgow, S. 4. Student. Signed by : S. Horwood Tucker, C. Buchanan, T. S. Stevens.
- ***Davis, John Burton**. British. 64, Bennetts Way, Shirley, Croydon. Student, Queen Mary College, London. Signed by : V. Petrow, C. M. French, H. D. K. Drew.
- ***D'Eye, Royston Walter Mastin**, B.Sc. (Lond.). British. 35, Linkside, Finchley, N. 12. Post-graduate student. Signed by : W. Gerrard, H. J. S. King, D. H. Richardson.
- ***Downie, Thomas Cochrane**. British. 33, Elizabeth Street, Ibrox, Glasgow, S.W. 1. At present in H.M. Forces. Signed by : Charles Buchanan, S. Horwood Tucker, J. W. Cook.
- Dyett, Edward James**, B.Sc. (Lond.). British. 111, Leighton Gardens, Kensal Rise, N.W. 10. Analytical Chemist. Signed by : Leslie H. Lampitt, E. B. Hughes, A. J. Goodall.
- Edwards, Lawrence John**, B.Sc. (Lond.), F.R.I.C. British. 78, Redcliffe Square, South Kensington, S.W. 7. Research Chemist. Signed by : Michael F. Carroll, John P. Young, C. W. Cornwell.
- Emling, Rev. Bertin Leo**, B.A. (St. Vincent), M.A. (John Hopkins), Ph.D. (Notre Dame). American. St. Vincent, Archabbey, Latrobe, Pennsylvania. Associate Professor of Organic Chemistry, St. Vincent College. Signed by : Joseph S. McGrath, Christopher L. Wilson, F. E. Cislak.
- Evans, Arthur Owen**. British. 85, Penarth Road, Cardiff. Chemist, Chemical Inspection Department, Ministry of Supply. Signed by : N. G. Perkins, W. D. Williams, G. Davies.
- Everest, David Anthony**, B.Sc.Hons. (Lond.). British. 7, Aston Avenue, Kenton, Harrow. Student, University College, London. Signed by : C. K. Ingold, Henry Terry, L. F. Gilbert.
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PAPERS RECEIVED

List of papers received between November 21st, 1946, and December 16th, 1946. (This list does not include the titles of papers which have been read at a Scientific Meeting or which have appeared in the *Journal*.)

- "The kinetics of aromatic halogen substitution. Part III. Iodination by iodine chloride." By L. J. LAMBOURNE and P. W. ROBERTSON.
- "Oxidation of carbohydrates by the periodate ion." By T. G. HALSALL, E. L. HIRST, and J. K. N. JONES.
- "Synthesis of ω -aminoalkyl cyanides." By A. A. GOLDBERG and W. KELLY.
- "Homosulphanilamides. Synthesis of the 2- ω -aminoalkyl and 2- ω -sulphanilamidoalkyl derivatives of thiazole and pyrimidine." By A. A. GOLDBERG and W. KELLY.
- "The preparation and ultra-violet light absorption of some substituted phenylpropenyl- and styryl-methyl-carbinols, and 1-phenylbutadienes." By E. A. BRAUDE, E. R. H. JONES, and E. S. STERN.
- "The kinetics of anionotropic rearrangement. Part VI. The effects of methyl, methoxy-, and halogen substituents attached to a phenyl group." By E. A. BRAUDE and E. S. STERN.

- "Studies in light absorption. Part IV. Nitro-olefins." By E. A. BRAUDE, E. R. H. JONES, and G. ROSE.
- "Syntheses in the thiopyran series. Part I. Tetrahydro-derivatives." By R. F. NAYLOR.
- "Potassium fluoaluminates." By F. A. PAINE and J. PEARSON.
- "Amidines. Part VII. Preparation of amidines from cyanides, aluminium chloride, and ammonia or amines." By P. OXLEY, M. W. PARTRIDGE, and W. F. SHORT.
- "Unsaturated lactones: some esters of aconic and coumalic acids." By N. R. CAMPBELL and J. H. HUNT.
- "Pyrazine derivatives. Part III. Conversion of diketopiperazines into pyrazine derivatives. Synthesis of 2-hydroxy-3:6-disec.-butylpyrazine from isoleucine." By R. A. BAXTER and F. S. SPRING.
- "Pyrazine derivatives. Part IV. Pyrazine-N-oxides and their conversion into chloropyrazines." By G. T. NEWBOLD and F. S. SPRING.
- "Nitration in sulphuric acid. Part V. Nitration of 2:4-dinitrotoluene in a two-phase system." By G. M. BENNETT, J. C. D. BRAND, D. M. JAMES, T. G. SAUNDERS, and G. WILLIAMS.
- " β -cycloPropionitriles. Part I. A general synthesis and conversion into pyrrole dyes." By E. B. KNOTT.
- " β -cycloPropionitriles. Part II. Conversion into bis-2-(5-cyclylpyrrole)azamethin salts." By E. B. KNOTT.
- "Pectic substances. Part VI. The structure of the araban from *Arachis hypogea*." By E. L. HIRST and J. K. N. JONES.
- "1:9-Diaminoacridine." By (MISS) E. R. KLEIN and F. N. LAHEY.
- "The reactions of *N*-benzenesulphonylb \acute{e} nzisothiazolone with aromatic amines." By (the late) E. W. MCCLELLAND and R. H. PETERS.
- "Application of thallium compounds in organic chemistry. Part XI." By R. C. MENZIES.
- "Trinitromethane derivatives. Part I. The preparation of *p*-nitrobenzyltrinitromethane." By W. S. REICH.
- "Trinitromethane derivatives. Part II. The preparation of 2:4:6-trinitrobenzyltrinitromethane." By W. S. REICH and G. G. ROSE.
- "Trinitromethane derivatives. Part III. The preparation of some polytrinitromethyl derivatives of xylene and of mesitylene." By W. S. REICH and W. WILSON.
- "Pectic substances. Part VII. The constitution of the galactan from *Lupinus albus*." By E. L. HIRST, J. K. N. JONES, and (MRS.) W. O. WALDER.
- "The reaction of benzoic anhydride with aromatic compounds catalysed by boron trifluoride." By D. L. HAMMICK and P. H. GIVEN.
- "A note on the mechanism of the tautomeric change of 5-hydroxy-1:2:3-triazole-4-carboxylic esters into aliphatic diazo-compounds." By B. R. BROWN and D. L. HAMMICK.
- "The reduction of oxides by hydrogen and carbon monoxide." By W. E. GARNER.
- "The heats of adsorption of gases on manganouschromic oxide at room temperatures." By T. WARD.
- "The photochemical polymerisation of vinyl acetate vapour." By H. W. MELVILLE and R. F. TUCKETT.
- "Radical sensitised polymerisation of vinyl acetate vapour." By H. W. MELVILLE and R. F. TUCKETT.
- "Contributions to the chemistry of synthetic antimalarials. Part IV. Hydrazine hydrolysis and radical exchange reactions of *N*-substituted phthalimides in relation to the constitution of the antimalarial R. 63." By H. J. BARBER and W. R. WRAGG.
- "Pectic substances. Part V. The molecular structure of strawberry and apple pectic acids." By G. H. BEAVAN and J. K. N. JONES.
- "Cyanomaclurin: experiments on its synthesis." By E. L. FONSEKA.
- "The constitution of copaene." By L. H. BRIGGS and W. I. TAYLOR.
- "An improvement in the preparation of cyclopentanone-2-ethylcarboxylate and some of its new condensation products with aromatic amines." By H. C. BARANY and M. PIANKA.
- "Some derivatives of D-galacturonic acid." By J. K. N. JONES and M. STACEY.
- "Synthesis of some derivatives of D- and L-arabinose." By J. K. N. JONES, P. W. KENT, and M. STACEY.
- "The quantitative separation of methylated sugars." By F. BROWN and J. K. N. JONES.
- "Qualitative semimicro-analysis with reference to Noyes and Bray's system. Partial analysis of the combined nickel, zirconium, and rare-earth groups." By CHRISTINA C. MILLER.

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