

January 1941.

THE CHEMICAL SOCIETY

MEETING IN LONDON.

Chemical Society, Burlington House, Piccadilly, W. 1. Thursday, February 6th, 1941, at 1.45 p.m. **Lecture** on "Plasticisers" by Mr. F. W. Clark, B.Sc., F.I.C. Joint meeting of the Chemical Society and the Plastics Group of the Society of Chemical Industry.

Professor J. C. Philip, O.B.E., D.Sc., F.R.S., will take the Chair.

MEETINGS OUTSIDE LONDON.

EDINBURGH.

February 24th, 1941, at 7.15 p.m. **Tilden Lecture** on "Some Problems in Macromolecular Chemistry" by Professor H. W. Melville, D.Sc., Ph.D. To be held at the North British Station Hotel.

GLASGOW.

February 21st, 1941, at 7 p.m. **Lecture** on "Correlations between Cancer-producing Compounds" by Professor J. W. Cook, D.Sc., F.R.S. To be held in the Societies' Room of the Royal Technical College.

LEEDS.

March 11th, 1941, first session 5.15 to 6.15; interval for refreshments; second session 7 to 8.30 p.m. **Discussion** on "Some Aspects of Adsorption" to be opened by Dr. R. M. Barrer and Mr. R. S. Bradley. Joint meeting with the University of Leeds Chemical Society. To be held in the General Lecture Theatre of the University.

LIVERPOOL.

February 13th, 1941, at 4 p.m. **Lecture** on "Recent Research on the Nutrition of Bacteria" by Professor H. D. Wright, B.A., M.D., D.Sc. Joint meeting with the Liverpool University Chemical Society to be held in the Lecture Theatre of the University.

NORTH WALES.

February 7th, 1941, at 5.30 p.m. **Lecture** on "The Chemistry of Rottlerin and Related Topics" by Professor A. Robertson, M.A., B.Sc., Ph.D. Joint meeting with the University College of N. Wales Chemical Society, to be held in the Chemistry Lecture Theatre of the College, Bangor.

SHEFFIELD.

February 28th, 1941, at 5.30 p.m. **Lecture** on "Diazotisation" by Professor J. Kenner, D.Sc., F.R.S. To be held in the Chemistry Lecture Theatre of the University, Western Bank.

SOUTH WALES.

In Cardiff.

February 15th, 1941, at 3.15 p.m. **Lecture** on "Disinfectants" by Mr. N. Berry, B.Sc., A.I.C.

March 21st, 1941, at 5.45 p.m. **Lecture** on "More Recent Investigations on Organic Compounds of Gold" by Professor C. S. Gibson, O.B.E., M.A., Sc.D., F.R.S.

Joint meetings with the Institute of Chemistry and the Society of Chemical Industry. To be held in the Physics Lecture Theatre, University College of South Wales, Cathays Park.

In Swansea.

March 20th, 1941, at 5.30 p.m. **Lecture** on "The Life and Work of William Jackson Pope" by Professor C. S. Gibson, O.B.E., M.A., Sc.D., F.R.S. Joint meeting with the University College of Swansea Students Chemical Society. To be held in the Chemistry Lecture Theatre, University College.

PROCEEDINGS

OF THE

CHEMICAL SOCIETY.

MEETING OUTSIDE LONDON.

LECTURE AT SWANSEA, JANUARY 18th.

A meeting of the Society was held jointly with the Local Section of the Institute of Petroleum and the University College of Swansea Chemical Society at 3 p.m. on Saturday, January 18th, in the Chemistry Lecture Theatre, University College, Swansea, with Professor J. E. Coates, Local Representative, in the Chair. Mr. A. R. Ubbelohde delivered a lecture on "The Combustion of Gaseous Hydrocarbons." Confining himself to the low-temperature oxidation of straight-chain aliphatic hydrocarbons—*e.g.*, *n*-pentane—the lecturer outlined the experimental methods, including the study of reaction products, reaction kinetics, and spectroscopy, of obtaining evidence as to the nature of the intermediate oxidation compounds and of the reaction chain mechanism, which was shown to involve aldehydes and peroxides as important stages. Reference was made to pro- and anti-knock agents, and to experiments with the internal-combustion engine. The lecture was fully illustrated by experiments. A short discussion followed in which Messrs. F. G. Willson, W. S. Nathan, and G. E. Coates took part. A cordial vote of thanks to the lecturer was proposed by Dr. J. W. T. Jones, seconded by Dr. E. Roberts, and carried with acclamation.

OFFICIAL ANNOUNCEMENTS

DEATHS.

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

	Elected.	Died.
Alexander Houghton Hay	1913	September 8th, 1940.
Charles Arthur Silberrad	1921	October 31st, 1940.

ACKNOWLEDGEMENTS.

The Council have expressed their thanks to Mr. Percy Appleyard and Dr. T. Ewan for contributions to the Publications Fund.

RESEARCH FUND.

In view of present conditions, the Council have decided to consider applications for grants from the Research Fund of the Society as they are received. Fellows wishing to apply for grants should make application on the form obtainable from the General Secretary.

RESEARCH GRANTS.

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

Plant products of New Zealand (<i>contd.</i>). L. H. Briggs (Auckland University College)	£	s.	d.
	20	0	0

REPRESENTATION OF THE SOCIETY ON OTHER BODIES.

The following have been appointed by the Council to serve during 1941 :

Bristol University Court : Prof. F. G. Donnan.

British National Committee for Chemistry : Dr. C. W. Davies (Senior Secretary), Prof. F. G. Donnan, Mr. F. P. Dunn (Treasurer).

British Standards Institution : Council of Chemical Division : Dr. J. J. Fox. *Technical Committees* : Co-ordinating the work of the Divisional Councils in regard to any British Standard which may be issued in future for units, conversion factors, fundamental formulæ, values for properties of materials, etc. : Dr. H. J. T. Ellingham. Specifications for Materials and Plant used in Electroplating : Dr. U. R. Evans. Standardisation of Scientific Glassware : Mr. F. R. Ennos. Standards for use in Dairying Chemistry : Mr. Eric Voelker. Standardisation of Letter Symbols : Dr. C. F. Goodeve.

Bureau of Chemical and Physiological Abstracts : Dr. H. J. T. Ellingham, Prof. C. R. Harington, Dr. G. A. R. Kon, and one of the Hon. Secretaries, with the Treasurer *ex-officio*.

Chemical Council : Dr. C. W. Davies, Prof. F. G. Donnan, Mr. F. P. Dunn.

City and Guilds of London Institute : The President.

Faraday Society : Colloid Committee : Mr. D. C. Henry.

Joint Library Committee : Prof. A. J. Allmand, Prof. H. Bassett, Dr. O. L. Brady, Prof. C. H. Desch, Mr. M. B. Donald, Dr. H. J. Emeléus, Dr. C. F. Goodeve, Dr. P. Haas, Prof. C. R. Harington, Dr. T. A. Henry, Dr. E. W. McClelland, Dr. E. E. Turner, Prof. W. Wardlaw, Dr. J. C. Withers.

Laws Agricultural Trust : Committee of Management : Dr. E. F. Armstrong.

Royal Microscopical Society : Standardisation of Biological Stains : Prof. A. G. Green.

Royal Society : Joint Standing Committee for Symbols and Abbreviations : Dr. C. W. Davies, Dr. H. J. T. Ellingham.

VACANCIES ON COUNCIL.

The names of the members of Council who retire at the Annual General Meeting on the 3rd April, 1941, are as follows :

President : Sir ROBERT ROBINSON.

Vice-Presidents who have filled the office of President : Professor P. F. FRANKLAND, Professor G. G. HENDERSON, Professor N. V. SIDGWICK, and Professor W. P. WYNNE.

Elected Ordinary Members of Council :

Constituency I (South-East England).

Dr. A. G. FRANCIS, Dr. R. J. W. LE FÈVRE, and Dr. H. McCOMBIE.

Constituency IV (North-East England).

Dr. E. B. R. PRIDEAUX and Professor F. M. ROWE.

Constituency V (Scotland).

Professor F. J. WILSON.

The above are ineligible for election to the same office until after the lapse of one year except in so far as special provision is made in Bye-Law 47 for the appointment of Vice-Presidents who have filled the office of President. In accordance with this Bye-Law, Sir Robert Robinson (retiring President) will become a Vice-President who has filled the office of President, and Professor P. F. Frankland, Professor G. G. Henderson, Professor N. V. Sidgwick, and Professor W. P. Wynne will continue in office.

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 on the 3rd April, 1941 :

President One vacancy.

Elected Ordinary Members of Council :

Constituency I (South-East England) Three vacancies.

„ **IV** (North-East England) Two vacancies.

„ **V** (Scotland) One vacancy.

In accordance with Bye-Law 23, the Council have nominated Professor J. C. Philip to the office of President.

Nominations by Fellows for the office of President may 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 the office, if elected.

All nominations must be received by the Honorary Secretaries at the Society's Rooms **not later than first post on Friday, February 14th, 1941.**

FELLOWSHIP.

The resignations of 18 Fellows have been accepted; 6 Fellows have been reinstated and the following new Fellows have been elected :

Eric George Baxter.	Harold Henry Kerswell.
Norman Stewart Capper.	Gavin Lawson.
Satya Prakash Datta.	Brian Percival Mullins.
Bernard Ellis.	Charles Robert Oswin.
Wilfred Vernon Farrar.	Alexander Parkinson.
Ranajit Ghosh.	Franz Carl Schmelkes.
Kenneth Hargreaves.	Harry Hermann Sobotka.
Gerald Duncan Heath.	Robert Edwin Stuckey.

GENERAL ANNOUNCEMENTS

BOARD OF TRADE.

The Treasury have made an Order under Section 10 (5) of the Finance Act, 1926, renewing until June 30th, 1941, the exemption from Key Industry duty of all articles at present exempt, except dial, chinoline, dinitro-orthoecresol, ethyl orthoformate, and metaldehyde.

Copies of the Order, which is entitled the Safeguarding of Industries (Exemption) No. 16 Order, 1940 (S.R. & O. 1940, No. 2182), may be obtained from H.M. Stationery Office.

THE PHYSICAL SOCIETY COLOUR GROUP.

The first meeting of the Colour Group of the Physical Society will be held at the Polytechnic, Regent Street, London, W. 1, at 2 p.m. on February 12th, 1941. The first portion of the meeting will be devoted to a discussion of the draft constitution of the Group. Discussion will be open to all those attending the meeting, but voting will be restricted to those who have completed the form of membership. Copies of the draft constitution of the Group may be seen at the offices of the Physical Society at 1, Lowther Gardens, South Kensington.

During the second portion of the meeting four short papers will be read on the subject of COLOUR TOLERANCE, as follows :

- (1) "Introductory" by Dr. Wright of the Imperial College of Science and Technology.
- (2) "The Commercial Aspect" by Mr. Wilson of the British Colour Council.
- (3) "The Technical Aspect" by Mr. Ellis of the Clayton Aniline Co., Ltd.
- (4) "The Physical Aspect" by Mr. Perry of Messrs. Adam Hilger, Ltd.

Tea will be served at 4.30 p.m.

LIST OF APPLICATIONS FOR FELLOWSHIP

(Fellows wishing to lodge objections to the election of any of these candidates should communicate with the Honorary Secretaries not later than Monday, February 17th. Such objections will be treated as confidential. The forms of application are displayed in the Library.)

Berg, Isaac, B.Sc. Hons. (Lond.), A.I.C., British. 18, Philson Mansions, Philpot Street, London, E. 1. Analytical Chemist.

Signed by : J. R. Partington, W. H. Patterson, D. C. Jones.

- Bilham, Philip**, M.Sc. (Lond.), F.I.C., British. Ryecroft, Cross Road, Tadworth, Surrey. Research Chemist.
Signed by : Leslie H. Lampitt, E. B. Hughes, R. L. Collett.
- Brown, Harold Bush**, F.I.C., British. Burleigh, Knapton Lane, Acomb, York. Research Chemist.
Signed by : W. A. Wightman, H. Burton, J. W. Baker, R. Leslie Collett.
- Bull, Frank Henry Charles**, B.Sc. (Bristol), A.I.C., British. 6, Wimbledon Road, Kellaway Avenue, Bristol, 6. Works Chemist and Deputy Chief Chemist to a Gas Company.
Signed by : E. B. Maxted, T. Malkin, J. K. N. Jones, H. D. Springall.
- *Catch, John Reynolds**, B.Sc. (Lond.), British. 4, Bridges Road, West Ewell. Student.
Signed by : D. H. Hey, E. R. H. Jones, G. A. R. Kon.
- *Cockayne, Walter Sydney**, B.Sc. (Edin.), British. 18, George Place, Peebles. Research at Edinburgh University.
Signed by : E. G. V. Percival, H. Gordon Rule, Mowbray Ritchie.
- Demuth, Ronald Leopald**, B.A. Hons. (Cantab.), British. 68, Salusbury Road, West Kilburn, N.W. 6. Manufacturing Chemist.
Signed by : H. Lambourne, Eric K. Rideal, J. H. Schulman.
- Dickinson, Denis**, M.Sc. (Dun.), F.I.C., British. 15, Nansen Road, Gatley, Cheadle, Cheshire. Analytical and Research Chemist.
Signed by : Denis E. Wheeler, Alex. R. Todd, F. P. Dunn.
- Drane, Charles William**, B.Sc. (Wales), A.I.C., British. 51, Chester Road, Streetly, Sutton Coldfield, Birmingham. Assistant Chemist, Birmingham Tame & Rea District Drainage Board.
Signed by : J. L. Simonsen, G. R. Ramage, Walter W. Reed.
- *Dukes, Wilfrid Archibald**, B.Sc. Hons. (Lond.), British. 16, Wellesley Road, Croydon. Research Chemist at Ministry of Supply.
Signed by : C. K. Ingold, Henry Terrey, E. D. Hughes.
- Gard, John Stanley Fabian**, B.Sc. (Dun.), A.I.C., British. 2, Station Road, Washington, Co. Durham. Chief Chemist to a Chemical Co.
Signed by : G. R. Clemo, Eric G. Hancock, H. L. Riley, P. L. Robinson.
- Goddard, Eric**, Assoc. Manc. Coll. Tech., British. c/o A. E. Bevan, Ltd., 51, South John Street, Liverpool, 1. Works Manager and Chief Chemist to a firm of manufacturing Chemists.
Signed by : Norman Hamer, A. E. Findlay, R. R. Butler.
- Greaves, John Harry**, B.Sc. (Lond.), A.I.C., British. 32, Lancaster Road, South Norwood, S.E. 25. Works and Research Chemist.
Signed by : J. O. Cutter, D. R. Duncan, S. H. Bell.
- Gyles, Thomas Benson**, M.Sc. (Melbourne), A.I.C., British. Gifford Cottage, Rangeworthy, Glos. Manager, Technical Department, The National Smelting Co., Ltd.
Signed by : W. E. Garner, E. B. Maxted, T. Malkin, H. D. Springall.
- Hadfield, Thomas**, City and Guilds full Certificate (Teachers), British. 22, Blackburn Road, Rishton, Blackburn. Pathologist (Clinical).
Signed by : E. H. Holden, T. Haworth, H. Ainsworth Harrison.
- Hancock, Douglas Charles**, B.Sc. Hons. (Lond.), A.I.C., British. 27, Woodlawn Crescent, Twickenham, Middlesex. Research Chemist.
Signed by : S. H. Bell, D. R. Duncan, J. O. Cutter.
- Hartz, Lionel Samuel**, B.Sc. (Lond.), A.I.C., British. 42, Cambridge Heath Road, London, E. 1. Analytical Chemist.
Signed by : E. B. Hughes, A. E. Bradfield, Leslie H. Lampitt.
- Haslam, John**, M.Sc. (Vict.), F.I.C., British. Raynham, Middlewich Road, Northwich, Cheshire. Deputy Chief Analyst.
Signed by : L. M. Clark, H. C. Raine, H. H. Whitelegg.
- Hayworth, William Prince**, F.I.C., British. Port Sunlight, Cheshire. Analytical Chemist.
Signed by : R. F. Hunter, W. J. G. Jones, A. D. Scott, R. Leslie Collett.

- Hepworth, Harry**, D.Sc. (Lond.), F.I.C., British. Ridgeway, Hill Top, Wilmslow, Cheshire. Chemist with I.C.I. (Dyestuffs) Ltd.
Signed by : E. H. Rodd, M. Barrowcliff, P. Chorley.
- Hunwicke, Roderick Francis**, B.Sc. (Lond.), F.I.C., British. Greenford, Middlesex. Senior Bacteriologist.
Signed by : F. A. Robinson, B. Arthur Hems, H. Jephcott.
- Irving, Francis**, B.Sc. and Ph.D. (Liverpool), British. c/o I.C.I. (Dyestuffs) Ltd., Research Department, Manchester. Research Chemist.
Signed by : E. H. Rodd, J. W. Batty, H. A. Piggott.
- James, Walter Eric**, M.P.S., British. 48, Sudbury Croft, Harrow Road, Wembley. Pharmacist at Glaxo Laboratories.
Signed by : A. L. Bacharach, F. W. Robinson, B. Arthur Hems.
- Jones, Ernest Gabriel**, M.Sc. (Vict. & Liverpool), F.I.C., British. 16, Sefton Drive, Liverpool, 8. Deputy City Analyst, Liverpool. Lecturer in Public Health Chemistry at the University of Liverpool.
Signed by : A. Robertson, A. McGookin, T. P. Hilditch.
- Jones, Thomas Gilbert Henry**, D.Sc. (Sydney), British. Department of Queensland, University of Queensland, Brisbane, Australia. Professor of Chemistry.
Signed by : J. C. Earl, Thomas Iredale, Adrien Albert.
- Kennett, Stanley John**, B.Sc. and Ph.D. (Lond.), A.R.S.M., D.I.C., British. 96, Crawford Avenue, Liverpool, 15. Lecturer in Metallurgy, Liverpool University.
Signed by : T. P. Hilditch, R. A. Morton, A. Robertson.
- Kerr, John William**, B.Sc. Hons. (Glas.), F.I.C., British. I.C.I. Ltd., 4, Blythswood Square, Glasgow, C. 2. Chemical Sales Manager.
Signed by : F. J. Wilson, I. V. Hopper, A. B. Crawford.
- Lee, William Victor**, British. c/o Union Oil & Cake Mills, Union Mills, Silvertown, E. 16. Chemist, Oil Mills & Refineries.
Signed by : A. B. Shepherd, H. L. Howard, Eric Pickering.
- Leicester, Dacre Cheales**, British. 19, Nightingale Road, Bushey, Herts. Works Manager and Chemist.
Signed by : F. Thomas, Henry H. Butterfield, William A. Whiting.
- Lerrigs, Arthur Frank**, B.Sc. (Birm.), F.I.C., British. 61, The Chase, Eastcote, Middlesex. Analytical Chemist, Glaxo Laboratories.
Signed by : F. A. Robinson, B. Arthur Hems, H. Jephcott.
- McCartney, William**, Ph.D. (Edin.), F.I.C., Associate of Heriot-Watt College, British. 89, Arundel Road, Kingston-on-Thames. Research Chemist and Scientific Assistant to the Director, Iodine Educational Bureau.
Signed by : Francis C. Kelly, Edgar Stedman, W. Godden.
- McDowell, Richard Henry**, M.A. and B.Sc. (Oxon.), A.M.I.Chem.E., British. 120, Three Elms Road, Hereford. Works Chemist and Chemical Engineer.
Signed by : D. L. Chapman, R. Robinson, D. Ll. Hammick.
- McLellan, Basil Gordon**, F.I.C., M.I.Chem.E., A.R.T.C., British. Beverley House, Clifton, York. Chief Chemist, Rowntree & Co., Ltd.
Signed by : W. A. Wightman, J. W. Baker, H. Burton, R. Leslie Collett.
- Maltby, John Gwilliam**, B.Sc. (Lond.), A.I.C., British. Aubigny, Reigate Road, Epsom. Analytical Chemist.
Signed by : E. Horton, H. B. Hutchinson, J. Vargas Eyre.
- Myerscough, Leslie Charles**, B.Sc. Hons. (Lond.), A.I.C. English. 87, Lindsay Drive, Kenton, Harrow. Research Chemist, Johnson, Matthey & Co., Ltd.
Signed by : W. P. Grove, A. R. Powell, J. Kenyon.
- Orr, William James Coltart**, B.Sc. (Edin.), Ph.D. (Edin. & Cantab.), British. 55, Roseford Road, Cambridge. Research Worker.
Signed by : Eric K. Rideal, J. K. Roberts, A. E. Alexander.
- *Pearcy, Ralph**, B.Sc. (Lond.), British. 63, Gilpin Avenue, East Sheen, S.W. 14. Research Student.
Signed by : C. K. Ingold, E. D. Hughes, J. N. E. Day.

- Peter, Reginald Charles**, B.Sc. Hons. (Lond.), British. 338, Field End Road, Ruislip. Chief Chemist, International Estate Co., Ltd.
Signed by : W. H. Banks, W. Lawson, G. D. Greville.
- Potter, Peter Bridgman**, B.A. (Cantab.), British. Dobbins, Brackley, Northants. On Service.
Signed by : P. V. Potter, F. P. Dunn, C. W. Davies.
- *Preston, Robert William Gunn**, B.Sc., Hons. (Glasgow), British. Strathyre, Mill Road, Clydebank, Glasgow. Research Chemist.
Signed by : J. W. Cook, F. R. Storrie, T. S. Patterson.
- Purdie, Robert Hume**, M.Sc. (Lond.), A.R.C.S., D.I.C., A.I.C., British. 114, Haverstock Hill, N.W. 3. Analytical and Works Chemist.
Signed by : L. S. Theobald, A. A. Eldridge, James C. Philip.
- Riddell, George Low**, Ph.D. (Lond.), F.I.C., British. Patra House, 10, Robin Hood Court, Shoe Lane, E.C. 4. Director of Research of the Printing and Allied Trades Research Association.
Signed by : C. W. Davies, J. Kenyon, J. W. Smith.
- *Russell, Peter Byrom**, B.Sc. Hons. (Manchester), British. Brookside, Crofts Bank Road, Urmston. Research Student at Manchester University.
Signed by : G. N. Burkhardt, F. S. Spring, Alex. R. Todd.
- *Sagar, Robert**, B.Sc. (Manc.), British. 9, Buxton Street, Accrington. University Research Worker.
Signed by : G. N. Burkhardt, F. S. Spring, Alex. R. Todd.
- Smith, Colin Alderson**, M.A. (Cantab.), British. Eastfield House, Braunston, Nr. Rugby. Managing Director, H. A. Smith, Ltd.
Signed by : R. G. W. Norrish, Fredk. S. Dainton, Donald Faulkner, R. Roy Smith.
- Smith, Ernest Lester**, D.Sc. (Lond.), F.I.C., British. Greenford. Head of a Technical Research Department.
Signed by : F. A. Robinson, B. Arthur Hems, H. Jephcott.
- Surfleet, Harold**, M.P.S., British. 111, Eastcote Road, Ruislip. Chemist and Director, Kaylene Ltd.
Signed by : William N. Bacon, T. E. Wallis, Wilfred H. Linnell.
- *Waley, Stephen Gerald**, British. Balliol College, Oxford. Student.
Signed by : Ronald P. Bell, F. E. King, M. J. S. Dewar.
- Whiston, John Reginald Harvey**, M.A. and B.Sc. (Oxon.), British. Blurton, Stoke-on-Trent. Assistant Professor of Chemistry.
Signed by : Robert Robinson, E. Hope, D. Ll. Hammick.

* Reduced Annual Subscription.

PAPERS RECEIVED

List of papers received between December 19th, 1940, and January 23rd, 1941 :

- “ Absorption spectra in relation to quinones. I : 4-Naphthaquinone, anthraquinone and their derivatives.” By R. A. MORTON and W. S. EARLAM.
- “ *cis*-Azo-compounds. Part IV. Some reactions with diphenylketen.” By A. H. COOK and D. G. JONES.
- “ The interaction of chloramine-T and hydrogen sulphide, phosphine, and arsine.” By J. R. BENDALL, F. G. MANN, and D. PURDIE.
- “ Reaction velocities at low temperatures. Part III. The synthesis of diethylacetal at temperatures between -44° and $+25^{\circ}$.” By R. P. BELL and A. D. NORRIS.
- “ The preparation of some condensation products of *m*-dialkylaminobenzaldehydes with compounds containing reactive methylene groups, and investigation of their suitability as photographic sensitizers.” By W. COCKER and D. G. TURNER.
- “ Modified cinchona alkaloids. Part VIII. Niquine.” By W. SOLOMON.
- “ *p*-Aminodimethylaniline. Part I. The properties of its diazonium compound.” By E. E. AYLING, J. G. GORVIN, and L. E. HINKEL.

THE CHEMICAL SOCIETY

MEETINGS OUTSIDE LONDON.

LEEDS.

March 11th, 1941, first session 5.15 to 6.15; interval for refreshments; second session 7 to 8.30 p.m. **Discussion** on "Some Aspects of Adsorption" to be opened by Dr. R. M. Barrer and Mr. R. S. Bradley. Joint meeting with the University of Leeds Chemical Society. To be held in the General Lecture Theatre of the University.

SOUTH WALES.

In Swansea.

March 20th, 1941, at 5.30 p.m. **Lecture** on "The Life and Work of William Jackson Pope" by Professor C. S. Gibson, O.B.E., M.A., Sc.D., F.R.S. Joint meeting with the University College of Swansea Students Chemical Society. To be held in the Chemistry Lecture Theatre, University College.

In Cardiff.

March 21st, 1941, at 5.45 p.m. **Lecture** on "More Recent Investigations on Organic Compounds of Gold" by Professor C. S. Gibson, O.B.E., M.A., Sc.D., F.R.S.

Joint meeting with the Institute of Chemistry and the Society of Chemical Industry. To be held in the Physics Lecture Theatre, University College of South Wales, Cathays Park.

PROCEEDINGS

OF THE

CHEMICAL SOCIETY.

MEETINGS OUTSIDE LONDON.

LECTURE AT DUNDEE, JANUARY 24th.

A meeting of the Society was held in University College, Dundee, at 4.30 p.m. on Friday, January 24th, with Professor W. F. K. Wynne-Jones in the Chair. Principal Sir James C. Irvine, C.B.E., F.R.S., gave a lecture, illustrated by lantern slides, on "The Teaching of Chemistry in the University of St. Andrews." The lecturer gave a historical description of the development of Chemistry in the University, and an account of the various occupants of the chairs of Chemistry in St. Andrews, and in University College, Dundee. This was much enjoyed by a large audience, and a cordial vote of thanks to the lecturer was proposed by Professor Alex. McKenzie, F.R.S., and carried with acclamation.

LECTURE AT EDINBURGH, JANUARY 27th.

A joint meeting of the Society with the Local Sections of the Institute of Chemistry and the Society of Chemical Industry was held in the North British Station Hotel on Monday, January 27th, at 7.15 p.m., with Professor James Kendall, F.R.S., in the Chair.

Professor J. Masson Gulland delivered a lecture on "Nucleic Acids."

The lecturer began by mentioning briefly the recent developments which have demonstrated the rôle of nucleic acids in the structures of various biologically important substances. The salient features of the organic chemistry of the nucleosides and nucleotides were then outlined, and an account was given of some of the methods by which these substances have been synthesised. Then, having explained the conception of the tetranucleotide unit, the lecturer discussed in some detail the evidence—organic, physico-, and bio-chemical—on which the polytetranucleotide structures of ribonucleic and deoxyribonucleic acids are based, and by which light is thrown on the nature of the linkages between the constituent nucleotides of a tetranucleotide unit. He concluded by referring to the importance of nucleic acids, as they play a fundamental part in the structures of the most elementary reproductive bodies known, the chromosomes and viruses.

An interesting discussion followed, in which Dr. J. Hewart, Dr. Ludlam, Dr. Wightman, and Dr. Percival took part, and the meeting carried with acclamation a hearty vote of thanks proposed by Dr. Neil Campbell.

OFFICIAL ANNOUNCEMENTS

DEATHS.

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

	Elected.	Died.
Robert Cecil Turle Evans	1892	February 2nd, 1941.
George William Hargraves Stokes	1926	January 2nd, 1941.
Frank Watson Young	1877	January 10th, 1941.

CONGRATULATIONS.

The congratulations of the Society have been conveyed to the following Fellows who completed 50 years of Fellowship on February 19th, 1941 :

Charles Henry Corbett.
Edgar James Millard.

Sir Thomas K. Rose.

NOMINATIONS FOR VACANT PLACES ON THE COUNCIL.

As the number of nominations received for Elected Members of Council does not exceed the number of vacancies, the need for a ballot does not arise this year.

The following is a complete list of the nominations for the new Council, and, in accordance with Bye-Law 35, the Fellows thus nominated will be declared duly elected at the Annual General Meeting to be held in the Society's Rooms at Burlington House, Piccadilly, on Thursday, April 3rd, 1941 :

President (One vacancy) PROFESSOR J. C. PHILIP.

Vice-Presidents who have filled the office of President.

SIR ROBERT ROBINSON, as retiring President, becomes a Vice-President who has filled the office of President, and, in accordance with Bye-Law 47, the following continue to hold office :

PROFESSOR PERCY F. FRANKLAND.

PROFESSOR N. V. SIDGWICK.

PROFESSOR G. G. HENDERSON.

PROFESSOR W. P. WYNNE.

Elected Members of Council.

Constituency I (South-East England). (*Three vacancies.*)

DR. HARRY JULIUS EMELÉUS.

DR. BERNARD CHARLES SAUNDERS.

DR. JOHN JACOB FOX.

Constituency IV (North-East England). (*Two vacancies.*)

PROFESSOR JOHN MASSON GULLAND.

PROFESSOR ROBERT DOWNS HAWORTH.

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

DR. GUY FREDERICK MARRIAN.

ACKNOWLEDGMENTS.

The Council have expressed their thanks to Messrs. P. K. Dutt, J. E. B. Price, and G. Watson Young for contributions to the Publications Fund, and to Major E. R. Marle for a set of the *Annual Reports*.

LOCAL REPRESENTATIVE FOR CAMBRIDGE.

Dr. F. S. Dainton (Sidney Sussex College, Cambridge) has agreed to act temporarily as Local Representative for Cambridge.

ADVISORY RESEARCH COUNCIL OF THE CHEMICAL SOCIETY.

Preparation of Fine Chemicals.

The Advisory Research Council of the Chemical Society in collaboration with the Association of British Chemical Manufacturers is putting into operation a scheme for organising the preparation of Fine Chemicals by part-time volunteer workers in the laboratories of Universities, Technical Colleges, and other Institutions. It is essential to the scheme that compounds so prepared must be required for work of national importance and be not available commercially, and that the Manufacturers of Fine Chemicals are themselves unable, or do not find it convenient, to meet the demands. It is intended that preparations should be carried out on a cost-price basis which would include charges for materials, gas, electricity, etc., but not for the workers' services. No profits of any kind will be permitted.

The General Secretary will be glad to hear from those who have not already volunteered and who would be willing to allow their names to be added to the list of volunteer helpers in connection with this scheme. Enquiries for Fine Chemicals which fall within the scope of the scheme as set out above may also be made to the General Secretary, from whom further information can be obtained.

FELLOWSHIP.

The resignation of 1 Fellow has been accepted, 7 Fellows have been reinstated and the following 49 new Fellows were elected on February 20th :

Isaac Berg.	Stanley John Kennett.
Philip Bilham.	John William Kerr.
Harold Bush Brown.	William Victor Lee.
Frank Henry Charles Bull.	Dacre Cheales Leicester
John Reynolds Catch.	Arthur Frank Lerrigs.
Walter Sidney Cockayne.	William McCartney.
Ronald Leopold Demuth.	Richard Henry McDowell.
Denis Dickinson.	Basil Gordon McLellan.
Charles William Drane.	John Gwilliam Maltby.
Wilfrid Archibald Dukes.	Leslie Charles Myerscough.
John Stanley Fabian Gard.	William James Coltart Orr.
Eric Goddard.	Ralph Percy.
John Harry Greaves.	Reginald Charles Peter.
Thomas Benson Gyles.	Peter Bridgman Potter.
Thomas Hadfield.	Robert William Gunn Preston.
Douglas Charles Hancock.	Robert Hume Purdie.
Lionel Samuel Hartz.	George Low Riddell.
John Haslam.	Peter Byron Russell.
William Prince Hayworth.	Robert Šagar.
Harry Hepworth.	Colin Alderson Smith.
Roderick Francis Hunwicke.	Ernest Lester Smith.
Francis Irving.	Harold Surfleet.
Walter Eric James.	Stephen Gerald Waley.
Ernest Gabriel Jones.	John Reginald Harvey Whiston.
Thomas Gilbert Henry Jones.	

BRITISH STANDARDS INSTITUTION.

Copies of revised draft British Standard Specification No. CF (C) 7507 have been received for the British Institution for technical comment. These have been placed in the Library, and Fellows are invited to send comments to the Director of the Investigation at 28, Victoria Street, S.W.1.

LIST OF APPLICATIONS FOR FELLOWSHIP

(Fellows wishing to lodge objections to the election of any of these candidates should communicate with the Honorary Secretaries not later than Monday, 24th March. Such objections will be treated as confidential. The forms of application are displayed in the Library.)

Aleong, Ronald Winston, M.Sc. (Lond.), A.R.C.S., D.I.C., A.I.C., British. 7, Glazbury Road, W.14. Post graduate student.

Signed by : D. H. Hey, A. G. Pollard, R. Leslie Collett.

Allister, Charles Fulton, B.Sc. (Lond.), A.I.C., British. 37, Lynwood Road, Ealing, W.5. Chemist (Food and Industry).

Signed by : James Sandilands, R. Leslie Collett, Robert G. M. Dakers, Hugh B. Nisbet.

Amos, Arthur James, B.Sc. and Ph.D. (Lond.), F.I.C., British. The Dover Laboratories, Cambridge Works, Hanwell, W.7. Analytical and consulting Chemist.

Signed by : Ernest M. Hawkins, K. A. Williams, R. Leslie Collett.

Anderson, Leonard, M.Sc. (Leeds), British. 23, Arlington Drive, Mapperley Park, Nottingham. Director of Drug Co.

Signed by : Joseph Marshall, Frank Lee Pyman, R. Leslie Collett.

Angell, Stanley, B.Sc. and Ph.D. (Birm.), A.I.C., British. The Square, Minsterley. Chemist to a Creameries Company.

Signed by : W. J. Hickinbottom, R. H. Hopkins, F. W. Pinkard, F. Smith, E. G. Cox.

- Balmforth, Leonard**, B.Sc. (Lond.), F.I.C., British. Clifton Villa, South Street, Cottingham. Head of Chemistry Department, Hull Technical College.
Signed by : Harry Thompson, E. Chapman, R. Butler.
- Barrs, Charles Edward**, F.I.C., British. 58, South Hill Park, Hampstead, N.W.3. Analytical and Metallurgical Chemist.
Signed by : A. L. Bacharach, J. R. Nicholls, Thomas McLachlan.
- Bashford, Thomas Edwin**, A.R.San.I., British. 7, Albert Road, Worcester. Senior Bacteriologist, The Metal Box Co., Ltd.
Signed by : A. J. Howard, Cecil C. Duncan, G. A. Turner.
- Beilenson, Bernard**, B.Sc. and Ph.D. (L'pool.), F.I.C., British. Wealdstone, Harrow. Research Chemist.
Signed by : F. M. Hamer, S. C. Goddard, R. Leslie Collett.
- Bell, Alan Brewis**, B.Sc. Hons. (Manc.), A.I.C., British. Elstree Way, Boreham Wood. Works Manager and Director.
Signed by : F. Fairbrother, J. B. M. Herbert, Colin Campbell, R. Leslie Collett.
- Billbrough, Sidney**, B.Sc. (Lond.), F.I.C., British. Ackworth Park, Pontefract. Director of a company of Tar Distillers.
Signed by : W. E. Garner, E. B. Maxted, R. Leslie Collett.
- Blair, James**, B.Sc. (Leeds), F.I.C., British. Phillis Cottage, Holt, Trowbridge. Sales Manager, Dyestuffs.
Signed by : Francis H. Carr, A. L. Bacharach, H. W. Harman.
- Bloomfield, George Frederick**, B.Sc. and Ph.D. (Lond.), D.I.C., A.R.C.S., A.I.C., British. 1, Fordwich Road, Welwyn Garden City. Research Assistant, the British Rubber Producers Association.
Signed by : E. H. Farmer, F. Hilton, D. A. Sutton.
- Boundy, Clifford Kenneth**, A.I.C., British. Benns Garden, Liverpool, 1. Chief Chemist.
Signed by : T. P. Hilditch, G. P. Gibson, A. E. Findley.
- Bowes, Joane Hilton**, B.Sc. and Ph.D. (Lond.), A.I.C., British. Harpenden, Herts. Research Chemist, British Leather Manufacturers Research Association.
Signed by : M. P. Balfe, Mollie E. Heppenstall, Conmar Robinson.
- Bowles, Reginald Frederick**, B.Sc. and Ph.D. (Lond.), F.I.C., British. 50, Bourne Hill, Palmers Green, N.13. Chief Chemist and Head of Research Department of a Firm of Printing Ink and Varnish Manufacturers.
Signed by : J. Kenyon, J. O. Cutter, B. Saunders.
- Braddock, John**, M.P.S., British. 23, Rosewood Gardens, Gosforth, Newcastle-on-Tyne, 3. Chemist.
Signed by : D. Foggan, I. L. Robson, G. H. Christie.
- Brearley, George**, B.Sc. (Lond.), A.I.C., M.I.Chem.E., British. Borrowdale, Spital Road, Bromborough. Director and Works Manager.
Signed by : G. P. Gibson, W. F. Higgins, T. P. Hilditch.
- Brooks, John Joseph Ablett**, B.Sc. (Lond.), A.I.C., British. 16, Ballards Way, South Croydon. Chemist to Messrs. Lyons and Co., Ltd.
Signed by : E. B. Hughes, L. H. Lampitt, F. P. Dunn.
- Burman, Henry**, A.I.C., A.M.I.Chem.E., British. 82, Dee Street, Riddrie, Glasgow, E.1. Chemist, Glasgow Corporation.
Signed by : A. B. Crawford, M. M. J. Sutherland, F. J. Wilson.
- Burns, James Alexander**, A.I.C., British. c/o Charrington & Co., Ltd., E.1.
Signed by : Julian L. Baker, R. H. Hopkins, R. Leslie Collett.
- Cadwallader, Charles John**, M.A. and B.Sc. (Oxon.), British. 16, Catterick Road, Didsbury, Manchester. Research Chemist.
Signed by : Fredk. O. Howitt, Arthur Geake, F. S. H. Head.
- Chambers, Hubert Harold**, Ph.D. (Lond.), B.Sc. (Lond.), A.R.C.S., D.I.C., A.I.C., British. 92, Leighton Gardens, Kensal Rise, N.W.10. Analytical and Research Chemist.
Signed by : A. King, R. H. Purcell, M. Carlton.
- Charles, Gilbert Pendrill**, M.A. (Cantab.), L.M.S.S.A., D.P.H., British. 9, Dean Park Road, Bournemouth. Chief Assistant, Southern Counties Laboratories.
Signed by : R. Pendrill Charles, R. G. W. Norrish, H. McCombie.

- Cheshire, Arthur**, B.Sc. Hons. (L'pool.), A.I.C., British. 36, Eppleworth Road, Cottingham. Research Chemist to a firm of Tanners and Tanning Extract Manufacturers.
Signed by : W. B. Brown, R. Leslie Collett, P. S. Gordon.
- Cullen, William**, Hon. LL.D., M.Inst.M.M., M.I.Chem.E., M.I.C.E., M.I.M.E., British. Oakhill Drive, Surbiton. Consultant and Director of Public Companies.
Signed by : Wm. Wardlaw, Leslie H. Lampitt, F. P. Dunn.
- Davis, Henry John**, National Certificate in Pure and Applied Chemistry and Final Certificate "Oils, Fats, and Waxes, City and Guilds of London." Senior Shift Chemist.
Signed by : Harry Thompson, E. Chapman, A. Butler.
- Dewing, Tom**, M.Sc. (Lond.), A.I.C., British. Farnwald, High Road, Wilmington, Dartford. Research Chemist to a firm of Chemical Manufacturers.
Signed by : Sydney Smith, R. Lindsay Grant, G. E. Foster.
- Dickin, James Herbert**, B.Sc. (Birm.), British. 117, Walton Road, Lower Walton, Nr. Warrington. Laboratory Manager.
Signed by : H. W. L. Phillips, T. G. Pearson, Freeman Horn.
- *Dickinson, Lois**, B.Sc. Hons. (Manc.), British. 6, Billington Road, Agecroft, Pendlebury. Chemist in Public Health Laboratory, Manchester University.
Signed by : Harri Heap, Fred Fairbrother, Charity Waymouth.
- Dickson, William**, F.I.C., British. Ivythorpe, Thornhill Road, Streetly, Sutton Coldfield. Research Chemist.
Signed by : F. J. Wilson, M. M. J. Sutherland, A. B. Crawford.
- Dreyfus, Henry**, Ph.D. (Basle), British. Hyde Park Hotel, Knightsbridge, S.W. Chairman and Director of British Celanese, Ltd.
Signed by : J. J. Fox, Allan Domleo, W. A. Dickie.
- Dring, George**, M.A. (Cantab.), B.Sc. (Lond.), F.I.C., M.I.Chem.E., British. 636, Streetsbrook Road, Solihull. Development Manager to a firm of Chemical Manufacturers.
Signed by : F. P. Dunn, C. W. Davies, Wm. Wardlaw.
- Edwards, Ronald Leslie**, Ph.D. and B.Sc. (Lond.), F.I.C., British. Ipswich. Chemist, Research and works control.
Signed by : F. N. Woodward, R. A. Morton, W. Ramsay Sibbald.
- Emmott, Geoffrey Herbert**, A.I.C., English. Clifford Hill, Little Houghton, Northampton. Works Manager and Chemist.
Signed by : C. J. Virden, J. Todd, C. Dorée.
- Firth, Herbert**, F.I.C., British. Langholm, Grange Road, Roman Road, Shrewsbury. Manager, Fruit and Vegetable Cannery.
Signed by : W. B. Adam, Thos. Macara, Eileen M. Chatt.
- Freeland, David Michael**, F.I.C., British. 67, Burlington Road, Spring Grove, Isleworth. Works Chemist and Analyst to a firm of Biscuit Manufacturers.
Signed by : J. R. Nicholls, J. G. A. Griffiths, R. Leslie Collett.
- Galleymore, Harry Reginald**, M.A. Hons. (Cantab.), A.I.C., English. 31, Byrons Lane, Macclesfield. Chemist in charge of departments producing fatty acids, glycerine, and soap.
Signed by : F. G. Mann, A. R. Bonar, R. Leslie Collett.
- Goldenberg, Nathan**, M.A. and B.Sc. (Lond.), A.I.C., British. 1, Ashton Court, Greenford Road, Harrow. Research Chemist.
Signed by : Leslie H. Lampitt, E. B. Hughes, A. E. Bradfield.
- Goldthorpe, Harold Hopwood**, B.Sc. (Lond.), D.és.Sc. (Strasburg), A.I.C., British. Sewage Disposal Works, Huddersfield. Chemist and Manager.
Signed by : James Bruce, H. H. Hodgson, J. F. Dunworth.
- *Green, Sydney James**, B.Sc. Hons. (Birm.), English. 52, Kingscote Road, Edgbaston, Birmingham, 15. Research Student in Refining Petroleum Technology.
Signed by : Stanley Peat, M. Stacey, F. Smith.
- Greenhill, Alec Walter**, B.Sc., M.Sc., and Ph.D. (Lond.), A.R.C.S., D.I.C., F.I.C., British. 19, Park Hill Road, Ilfracombe. Director of Boron Agricultural Bureau.
Signed by : James C. Philip, H. J. T. Ellingham, A. A. Eldridge.

- Gregory, Melville**, B.Sc. (Lond.), British. 62, Broadhurst Avenue, Ilford. Assistant Chemist to the Gas, Light and Coke Co.
Signed by : A. J. Allmand, E. W. McClelland, D. W. G. Style.
- Griffith, Herbert Clewin**, Dip. in Electrical Engineering at the Northampton Engineering College; studied Chemistry for 2 years at the University of Hamburg and at Bergakademie, Freiberg.
Signed by : J. R. Nicholls, A. L. Bacharach, Bernard Dyer.
- Hamer, John Davies**, F.I.C., British. 5, Devonshire Road, Gravesend. Consulting Chemist.
Signed by : Wm. Wardlaw, M. Le Pla, R. Leslie Collett.
- Haywood, Frederick Wardle**, B.Sc. and Ph.D. (Lond.), F.I.C., M.Inst.Met., M. Iron & Steel Inst. Aff.Inst.Prod.E., British. 37, Oakroyd Avenue, Potters Bar. Chief Metallurgist and Chemist.
Signed by : R. Leslie Collett, James C. Philip, G. Malcolm Dyson.
- Hewitt, James Wallace**, B.A. and B.Sc. (Oxon.), Graduate Inst. Chem. Eng., A.I.C., British. 35, Olton Boulevard East, Birmingham, 27. Chemist to a firm of Chemical Manufacturers.
Signed by : T. T. Jones, H. V. Potter, R. H. Hopkins.
- Hopkins, Ernest Henry**, B.Sc. (Lond.), Dip.Bact. (Lond.), F.I.C., British. 126, Brunswick Road, Ealing, W.5. Bacteriologist and Chemist.
Signed by : H. E. F. Notton, R. T. M. Haines, I. E. Balaban.
- *Hopley, Melvyn**, British. Newfield House, Moira, Burton-on-Trent, Student at Loughborough College.
Signed by : J. M. Connolly, H. S. Turner, A. R. Harriman.
- Hornby, Frederick Percival**, B.Sc. (Lond.), F.I.C., English. 64, Falcondale Road, Westbury-on-Trym, Bristol. Chemist to a Waterworks.
Signed by : W. E. Garner, E. L. Hirst, T. Malkin.
- *Hornsby, Stanley**, B.Sc. Hons. (Dun.), British. 17, Cynthia Road, Runcorn. Analytical Chemist.
Signed by : R. A. E. Galley, N. F. Goodway, J. E. L. Swallow.
- Huggett, Walter Edward**, F.I.C., British. 7, Hall Road, Gidea Park, Romford. Research Chemist.
Signed by : T. W. Howard, R. Leslie Collett, H. F. V. Little.
- Humphreys, Frank Edmund**, B.Sc. and Ph.D. (Lond.), A.R.C.S., F.I.C., British. 536, Caledonian Road, N.7. Experimental Officer.
Signed by : Conmar Robinson, M. P. Balfe, R. Leslie Collett.
- James, George Vaughton**, Major, R.A.M.C., M.Sc. and Ph.D. (London.), F.I.C., British. Welwyn Garden City. Chief Analytical Chemist.
Signed by : A. Cohen, F. Bergel, R. W. Ancrum.
- *Johnson, Elizabeth Dent**, B.Sc. Hons. (Lond.), British. 70, Cavrel Road South, Darlington. Research Chemist with I.C.I., Ltd.
Signed by : T. S. Moore, M. M. T. Plant, A. Eric J. Vickers.
- Jones, Richard Leslie**, Assoc.M.Inst.Gas Eng., 1, Sovrel Bank, Pendleton, Salford. Works Superintendent, Gas Works.
Signed by : Thos. E. Hubbard, Thos. Haworth, R. Tomlinson Jones.
- Kendall, Charles Edwin**, B.Sc. (Lond.), A.I.C., British. 81, Yarningale Road, Kings Heath, Birmingham, 14. Assistant Chemist to a firm of Chemical Manufacturers.
Signed by : J. Newton Friend, J. Cooper Duff, R. H. Vallance.
- Kent-Jones, Douglas William**, B.Sc. and Ph.D. (Lond.), F.I.C., British. The Dover Laboratories, Cambridge Works, Hanwell, W.7. Analytical and Consulting Chemist.
Signed by : Ernest M. Hawkins, R. Leslie Collett, K. A. Williams.
- King, James Grievie**, D.Sc., Ph.D. (Lond.), A.R.T.C. (Glas.), F.I.C., F.I.Inst.F., British. Blackwall Lane, East Greenwich, S.E.10. Civil Servant (Principal Scientific Officer).
Signed by : A. E. Dunstan, F. S. Sinnatt, R. L. Collett.
- Kloss, Cyril Augustus**, B.Sc. (Lond.), A.I.C., British. 65, Deerhill Court, East Sheen, S.W.14. Chief Chemist to a firm of Brewers.
Signed by : M. P. Balfe, M. E. Heppenstall, Conmar Robinson.

- Knight, George Alfred**, Ph.D. and B.Sc. (Lond.), A.I.C., British. 39, St. Giles Road, Cavendish, Derby. Industrial Chemist.
Signed by : J. C. Roberts, J. Masson Gulland, E. B. R. Prideaux.
- Leach, Walter George**, B.Sc. Hons. (Lond.), A.I.C., English. 16, Chalfont Road, South Norwood, S.E.25. Research and Analytical Chemist.
Signed by : W. H. Banks, D. J. G. Ives, F. Barrow.
- *Leigh, Thomas**, B.Sc. Hons. (Lond.), English. 11, Arnfield Road, Withington, Manchester, 20. Laboratory Assistant in I.C.I.
Signed by : F. R. Basford, L. A. Elson, F. H. S. Curd.
- Lipscomb, Alfred George James**, B.Sc. (Lond.), F.I.C., British. 68, Brian Avenue, Norwich. Chemist.
Signed by : J. Kenyon, John W. Corran, Walter W. Reed.
- Lisle, Ernest Basil**. National Certificate in Chemistry, City and Guilds Technological Certificate, British. 92, Durham Road, Blackhill, Co. Durham. Analytical and Metallurgical Chemist.
Signed by : G. H. Christie, C. W. Gibby, H. A. Scarborough.
- Lowe, Austin**, A.M.C.T., A.I.C., British. c/o Bakelite Ltd., Brackley Lodge, Brackley. Technical Assistant to Managing Director.
Signed by : H. V. Potter, J. C. Philip, F. P. Dunn.
- Mabbitt, Alan Thomas**, B.Sc. (Lond.), A.I.C., English, 3, Wallwood Road, Leytonstone, E.11. Patent Searcher.
Signed by : Percy C. H. West, R. Leslie Collett, John L. Horton.
- McDonald, Donald**, B.Sc. (Lond.), F.I.C., M.I.Chem.E., British. 40, Oakwood Avenue, Beckenham. Joint Managing Director of Messrs. Johnson, Matthey & Co., Ltd.
Signed by : Thomas McLachlan, William H. Ballantyne, Thos. B. Clerk.
- MacTaggart, Edmonds Frank**, B.Sc. (Lond.), A.R.C.S., A.I.Mech.E., A.M.I.Chem.E., British. 40, Old Queen Street, S.W.1. Consulting Engineer.
Signed by : G. S. W. Marlow, William H. Ballantyne, F. P. Dunn.
- Mason, Harry Malkin**, M.Sc. (Sheffield), F.I.C., English. Bossinney, Fox Hill Crescent, Leeds, 6. Chief Chemist to a firm of Confectionery Manufacturers.
Signed by : H. Burton, W. A. Wightman, Frederick Challenger, D. T. A. Townend.
- Megson, Norman Joseph Lane**, M.Sc. (Birm.), A.I.C., British. 28, Cardinals Walk, Hampton. Senior Scientific Officer.
Signed by : J. J. Fox, R. C. Gale, I. M. Heilbron.
- Meyer, Herbert**, Ph.D. (Cologne), German (Refugee from Nazi Oppression). 135, Powys Lane, N.13. Chief Chemist to a firm of Carbon Manufacturers.
Signed by : Ernest S. Hedges, M. T. Clark, G. H. Cheesman.
- Miller, Mary Eynon**, B.Sc. (Manc.), British. I.C.I. (General Chemicals, Ltd.) Librarian, Runcorn.
Signed by : Aneurin Williams, Amy Smeeton Leah, J. W. C. Crawford.
- Monkhouse, Allan Cuthbertson**, B.Sc. and Ph.D. (Leeds), F.I.C., British. 7, Henleaze Gardens, Westbury-on-Trym, Bristol. Inspector of Alkali Works.
Signed by : H. T. Calvert, N. Garrod Thomas, E. L. Hirst, E. B. Maxted, F. W. Rixon.
- Moors, Albert Edward**, British. Headlands, Norley, Warrington. Tannery Manager and Director.
Signed by : Fred Holt, Andrew Turnbull, M. P. Balfe.
- Morgan, Richard Harold**, B.Sc. Hons. and M.Sc. (Wales), British. Croft House, Dollis Avenue, Finchley, N.3. Consulting Chemist. Food and Beverage Technologist.
Signed by : J. R. Nicholls, T. McLachlan, C. W. Davies.
- Moullpied, Alfred Theophilus de**, B.Sc. (Lond.), M.Sc. (Victoria), Ph.D. (Halle), F.I.C., Fellow, Institute of Fuel. British. 14, Waterloo Place, S.W.1. Director and Secretary to a Company.
Signed by : F. G. Donnan, H. Bassett, R. Leslie Collett.
- Muir, Geoffrey Dale**, B.Sc. and Ph.D. (Glas.), A.I.C., British. 93, Hyndland Road, Glasgow, W.2. Assistant Lecturer and Demonstrator, Royal Technical College, Glasgow.
Signed by : F. J. Wilson, M. M. J. Sutherland, J. A. Cranston.

- Neech, Frank Donald**, B.Sc. (Lond.), A.R.C.S., A.I.C., British. 39, Beechwood Avenue, S. Harrow. Analytical and Works Chemist.
Signed by : J. L. Edgar, J. W. Barrett, R. H. Purcell.
- Ogg, William Gammie**, M.A., B.Sc. and B.Sc.Agric. (Aberdeen), Ph.D. (Cantab), British. Craigiebuckler, Aberdeen. Director of Institute and Research Lecturer in Soil Science, University of Aberdeen.
Signed by : T. Harold Reade, R. B. Strathdee, James Hendrick.
- Ormrod, Albert**, B.Sc.Tech. (Manc.), A.M.C.T., Assoc.M.Inst.Gas E., British. 51, Cheviot Avenue, Oldham. Chief Chemist, Gas Department.
Signed by : J. Kenner, W. Bradley, John K. Wood.
- Owens, Ridland**, B.Sc. and Ph.D. (L'pool), A.I.C., M.I.Chem.E., British. Sutton Oak, St. Helens. Chemist.
Signed by : J. Davidson Pratt, L. J. Barley, I. M. Heilbron.
- Peakin, Frank Herbert**, B.Sc. and Ph.D. (Lond.), British. 565, Chester Road, Erdington, Birmingham, 23. Technical Research Chemist.
Signed by : S. R. Carter, E. G. Cox, C. H. Johnson.
- Pritchard, Frederick William**, B.Sc. (Birm.), A.I.C. (Lond.), British. 39, Quantock Road, Bridgwater, Somerset. Chief Chemist.
Signed by : G. D. Bond, W. H. Glover, W. Wardlaw.
- Raybould, William Edward**, M.Sc. (Birm.), F.I.C., British. "Fillongley," Silvermead Road, Sutton Coldfield. Chief Chemist, Messrs. Morris & Shaw, Ltd.
Signed by : W. Wardlaw, W. N. Haworth, S. R. Carter, R. Leslie Collett.
- Seymour, Donald Edwin**, A.I.C., British. Edminton, Chester Road, Woodford, Cheshire. Research Chemist.
Signed by : G. N. Burkhardt, F. S. Spring, Colin Campbell.
- Smith, Henry Geoffrey**, B.Sc. and Ph.D. (Leeds), F.I.C., British. 75, Chandos Avenue, Whetstone, N.20. Chemist, Government Laboratory. At present serving in H.M. Forces, R.A.M.C.
Signed by : A. G. Francis, J. R. Nicholls, J. G. A. Griffiths.
- Smith, James Fergus**, B.Sc. (Hons.), Ph.D. (Edin.), British. 16, Hazelmere Road, Petts Wood, Kent. Chief Chemist.
Signed by : J. J. Fox, A. Scott Dodd, R. L. Collett.
- *Smith, Thomas Sidney**, B.Sc., Subsidiary Physics, Inter. Science, British. The Brand, Griffydham, Leicester. Student at Loughborough College.
Signed by : G. E. Charlish, A. R. Harriman, C. Whitworth.
- Stanier, Harold**, B.A. (Cantab.), A.I.C., British. "Saverley," 26, Leesway, Westcliff-on-Sea, Essex. Senior Chemist.
Signed by : E. V. Evans, F. P. Dunn, C. W. Davies.
- Stevens, Stanley**, B.Sc. Hons. (Lond.), A.I.C., British. Flat 1, 31, Portenscale Road, Putney, S.W.15. Director and General Manager, Alfloc Limited.
Signed by : W. J. M. Cook, F. S. Baxter, J. H. Lindfield.
- Stimson, John Charles**, Ph.D. and B.Sc. (Lond.), A.R.C.S., D.I.C., F.I.C., British. 26, Prospect Road, Tunbridge Wells. Research Chemist.
Signed by : H. T. S. Britton, L. L. Bircumshaw, R. Leslie Collett.
- Stott, George Herbert**, M.Sc. (L'pool), F.I.C., British. Craigmore, Kinlochleven, Argyll. Assistant Laboratory Manager.
Signed by : Freeman Horn, Richard Seligman, W. H. J. Vernon.
- Sutton, Richard William**, B.Sc. (Manc.), F.I.C., English. County Offices, St. Mary's Gate, Derby. County Analyst.
Signed by : J. Masson Gulland, T. P. Hilditch, R. Leslie Collett.
- Tattersfield, Frederick**, D.Sc. (Lond.), F.I.C., British. Harpenden. Head of Department of Insecticides and Fungicides of an Experimental Station.
Signed by : S. H. Harper, George W. Cooke, R. Leslie Collett.
- Tayar, Robert Alfred Victor**, B.Sc. Hons. (Lond.), F.I.C., A.M.I.Chem.E., A.C.T.C. (Birm.), British. 23, Wheatsheaf Road, Edgbaston, Birmingham, 16. Research Chemist in charge of Chemical Works.
Signed by : R. H. Hopkins, J. Newton Friend, Geo. King, Raymond V. Wadsworth.

- Thornley, Basil Duperier**, B.Sc. (Lond.), A.R.C.S., British. Holmes Chapel, Cheshire. Chemist and Technical Manager.
Signed by : J. C. Philip, F. P. Dunn, H. J. T. Ellingham.
- Watridge, Roy Warren**, B.Sc. Hons. (Lond.), F.I.C., British. 139, Pear Tree Avenue, Bitterne, Southampton. Assistant Public Analyst.
Signed by : Alexander Lawson, N. K. Adam, R. Leslie Collett.
- Ward, James Bertram**, B.Sc. (Birm.), A.I.C., F.I.P.A., British. Aldwych House, London, W.C.2. Technical Director.
Signed by : E. R. Buggé, Harold Osbourn, J. R. Boorer.
- *Way, Yvonne Mary**, B.A. (Cantab.), B.Sc. Hons. (Sheffield), British. 4, Princess Road, Mexborough. Research in Organic Chemistry at the University of Sheffield.
Signed by : R. D. Haworth, Brynmor Jones, E. Gertrude Turner, T. B. Smith.
- White, George**, B.Sc. (Lond.), A.I.C., British. 89, Princes Plain, Bromley, Kent. Power Station Chemist.
Signed by : Arnold Cooksey, E. B. Naylor, R. Leslie Collett.
- White, John Christison**, M.C., O.B.E., F.I.C., A.M.I.Chem.E., A.K.C., British. 14, Woodcote Park Avenue, Purley, Surrey. Company Director.
Signed by : Alex. Findlay, E. H. Farmer, R. L. Collett.
- Williams, Leslie Thomas Douglas**, B.Sc. (Lond.), A.R.C.S., British. John Adam Street, W.C.2. Senior Scientific Officer.
Signed by : J. Davidson Pratt, L. J. Barley, I. M. Heilbron.
- Williams, Robert David**, M.Sc. (L'pool), A.I.C., British. 10, Hall Drive, Torrisholme, Morecambe. Chief Chemist to a firm of Chemical Manufacturers.
Signed by : Louis A. Jordan, S. H. Bell, R. L. Collett.
- Wilson, Robert Ballantyne**, B.Sc. Hons. (Edin.), A.I.C., British. 4, Strathfillan Road, Edinburgh. Temporary Assistant, Chemistry Department, Edinburgh University.
Signed by : H. Gordon Rule, Neil Campbell, E. G. V. Percival.
- Wood, Claude Helm**, A.I.C., British. 10, Rothesay Road, Pendlebury, Manchester. Senior Analytical Chemist in a Research Laboratory.
Signed by : Ivan Harris, R. Leslie Collett, C. J. Bushrod.
- Woodhouse, William**, F.I.C., British. 215, Derby Road, Beeston, Notts. Chief Chemist to Iron Works.
Signed by : J. Masson Gulland, E. B. R. Prideaux, R. Leslie Collett.
- Woodmansey, Arnold**, M.Sc. (Leeds), F.I.C., British. 31, St. Hilda's Road, Harrogate. Borough Analyst.
Signed by : H. Burton, Frederick Challenger, R. Leslie Collett.
- Wright, Frank Major**, B.Sc. (Lond.), British. The Research Library, 89, Buckingham Avenue, Slough, Bucks. Abstractor and Translator.
Signed by : W. S. Patterson, R. J. Winterton, J. H. Wilkinson.

**UNDER SPECIAL PROVISIONS APPERTAINING TO APPLICANTS
RESIDENT ABROAD :**

- Goldrei, Izaak**, Ingenieur Chimiste de l'Université de Strasbourg. Polish. 4, Howitt Close, Howitt Road, London, N.W.3. Research Chemist.
Signed by : Thos. Macara.
- Schaul, M. C.**, G.Phil. Nat. (Frankfurt), Stateless, German origin, Refugee. 16, Mortimer Court, Abbey Road, N.W.8. Research Work in Food Chemistry.
Signed by : Leslie H. Lampitt.

PAPERS RECEIVED

List of papers received between January 23rd and February 20th, 1941 :

"Solanum alkaloids. Part I. The alkaloid from the fruit of *Solanum aviculare*." By
R. C. BELL and L. H. BRIGGS.

- “Solanum alkaloids. Part II. Solasonine.” By L. H. BRIGGS, R. P. NEWBOLD, and N. E. STACE.
- “*Cannabis indica*. Part VI. The condensation of pulegone with alkyl resorcinols. A new synthesis of cannabinol and of a product with hashish activity.” By R. GHOSH, A. R. TODD, and D. C. WRIGHT.
- “The preparation of 4-acetamido-2-hydroxyphenylarsenoxide.” By M. A. PHILLIPS.
- “The halogenation of phenolic ethers and anilides. Part X. Substituted tolyl ethers.” By B. JONES.
- “The dissociation constants and stereochemistry of some stereoisomeric dibasic acids.” By J. C. SPEAKMAN.
- “Application of the diene synthesis to terpenoid compounds. Part II. Observations on the esters derived from some maleic anhydride adducts.” By T. F. WEST.
- “Tetrachloronaphthalenes derived from dichloronaphthalene tetrachlorides and from trichloronaphthalenesulphonic acids.” By (MISS) E. G. TURNER and W. P. WYNNE.

THE CHEMICAL SOCIETY

NOTICE OF FORTHCOMING MEETINGS

IN LONDON.

The Hundredth Annual General Meeting will take place at Burlington House on Thursday, April 3rd, 1941. At 12 noon, the business portion will be held (a) To receive the Report of Council, together with Statements of Accounts and Balance Sheets for the year ended 31st December, 1940; (b) To declare the election of the President and of Fellows nominated to fill vacancies among elected Ordinary members of Council; (c) To appoint Auditors for 1941.

At 12.45 for 1 p.m., Luncheon will be held at Kempinski's Restaurant (Swallow Street, Piccadilly), and the price of the luncheon will be 5s. 6d. (not including gratuities).

At 2.45 p.m. the retiring President, Sir Robert Robinson, F.R.S., will give his Presidential Address, entitled, "The Mechanism of the Benzidine Rearrangement and some Related Topics."

Thursday, April 24th, at 4.15 p.m. **The Tilden Lecture**, entitled "Some Problems in Macromolecular Chemistry," to be given by Professor H. W. Melville, D.Sc., Ph.D., at Burlington House.

Thursday, May 15th, at 4.15 p.m. **The Eighth Liversidge Lecture**, entitled "Complex Formation," to be given by Professor N. V. Sidgwick, C.B.E., M.A., Sc.D., F.R.S., at Burlington House.

OUTSIDE LONDON.

LEEDS.

May 13th, 1941, at 7.30 p.m. **The Eighth Liversidge Lecture**, entitled "Complex Formation," to be given by Professor N. V. Sidgwick, C.B.E., M.A., Sc.D., F.R.S. To be held in the Chemistry Lecture Theatre of the University.

LIVERPOOL.

May 1st, 1941, at 5 p.m. Lecture on "Chemical Research in Electrical Industry," by Dr. J. Brisler, F.I.C. Joint meeting with the Liverpool University Chemical Society. To be held in the Lecture Theatre of the University.

PROCEEDINGS

OF THE

CHEMICAL SOCIETY.

MEETINGS OUTSIDE LONDON.

SOUTH WALES.

In Cardiff.

A meeting of the Society was held jointly with the local sections of the Institute of Chemistry and the Society of Chemical Industry at 3.15 p.m. on Saturday, February 15th, at the University College of South Wales and Monmouthshire, Cathays Park, Cardiff. Mr. N. Berry, B.Sc., A.I.C., Dean of the College of the Pharmaceutical Society, delivered a lecture entitled "Disinfectants." In the course of an interesting survey of this wide field attention was directed both to the direct coal-tar products and to the numerous substances of synthetic origin. The lecturer dealt further with the possibilities of detergent antiseptics and stressed the need for studies directed towards aerosols. A lively discussion followed, in which Dr. Cullinane (the Chairman), Mr. Crofts, and Dr. D. P. Evans took part. A hearty vote of thanks to the lecturer was proposed by Dr. H. B. Watson, seconded by Mr. S. Dixon, and carried with acclamation. There were 66 members and visitors present.

EDINBURGH.

The Tilden Lecture, on "Some Problems in Macromolecular Chemistry," was delivered in the North British Station Hotel at 7.15 p.m. on Monday, February 24th, by Professor H. W. Melville, with Dr. E. G. V. Percival in the Chair. After a brief summary of the achievements of Sir William Tilden by the Chairman, the lecturer gave a masterly account of the present state of our knowledge of polymerisation reactions, in which he dealt with polymers of the "nylon" type, polymerised methyl methacrylate, chloroprene, vinyl esters and related substances, and the formation of three-dimensional polymers. Particular attention was paid to the mechanism of polymerisation and the structure and molecular weight of the products. Mr. A. M. Cameron and Drs. Beevers, Ludlam, Kermack, Mowbray Ritchie, Bolam, Nisbet, and others participated in the interesting discussion which followed, and the meeting concluded with the enthusiastic adoption of a vote of thanks to Professor Melville, on the motion of Professor James Kendall, F.R.S.

GLASGOW.

A meeting of the Society, in co-operation with the Local Sections of the Institute of Chemistry and the Society of Chemical Industry, was held at 7 p.m. on Friday, February 21st, in the Royal Technical College, with Professor F. J. Wilson in the Chair.

Professor J. W. Cook, F.R.S., delivered a lecture on "Correlations among Cancer-producing Compounds." The Lecturer outlined the rather well-defined relationships between constitution and carcinogenic properties in substitution products of 1:2-benzanthracene and in some related polynuclear substances, and suggested that the general shape and dimensions of the molecules influenced their biological activity. Physical properties—solubility, fluorescence, ultra-violet absorption—are not easily correlated with carcinogenic potency; and the same applies to the susceptibility to oxidation or diazo-coupling which is exhibited by many cancer-producing hydrocarbons. Finally reference was made to the histological changes observed after application of a carcinogenic agent,

and to the observation that such compounds actually inhibit the growth of existing tumours.

A discussion followed, and a vote of thanks, proposed by Professor T. S. Patterson, was carried with acclamation.

LEEDS.

A joint meeting of the Leeds Area Section of the Chemical Society and the Leeds University Chemical Society was held in the University of Leeds on Monday, March 11th, 1941. Professor R. Whytlaw Gray, F.R.S., occupied the Chair. The first session of a discussion on "Some Aspects of Adsorption," was opened by R. S. Bradley, Esq., M.A. (University of Leeds), who discussed "Adsorption on Simple Ionic Crystals."

After an interval for light refreshments, Dr. R. M. Barrer (Bradford Technical College) opened the second session with an account of "Sorption on Zeolites." Both contributions evoked interesting and valuable discussions a short account of which is being published.*

SHEFFIELD.

A joint meeting with the University Chemical Society was held at 5.30 p.m. on Friday, February 28th, in the University, with Professor R. D. Haworth in the Chair.

Professor J. Kenner, F.R.S., gave a lecture on "Diazotisation." After a historical and general survey of the reaction, the properties of the diazo-compounds were considered from the electronic point of view. Various implications were discussed, including some interesting suggestions regarding the reactivity of diazo-ketones, nitrosyl chloride, and acyl diazo-compounds.

Many of Professor Kenner's former students and colleagues were able to be present, and a vote of thanks, proposed by Emeritus Professor W. P. Wynne and seconded by Dr. T. B. Smith, was carried with acclamation.

OFFICIAL ANNOUNCEMENTS

DEATHS.

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

	Elected.	Died.
Andrew Campbell	1892	February 16th.
George Ward Hedley	1899	March 13th.
John William Towers	1893	February 23rd.

CONGRATULATIONS.

The congratulations of the Society have been conveyed to Mr. Archibald Walker, who completed 60 years of Fellowship on March 17th.

ACKNOWLEDGMENTS.

The Council are glad to record that the further sum of £101 11s. 5d. has been received from the Gilles Bequest. The thanks of the Council have been conveyed to Messrs. N. Campbell and Ernest E. Tallis for contributions to the Publications Fund and to Mr. J. E. B. Price for a contribution to the Library Fund.

* Chemistry and Industry.

FELLOWSHIP.

The following 111 candidates were elected Fellows of the Chemical Society on March 27th :—

Ronald Winston Aleong.	Richard Leslie Jones.
Charles Fulton Allister.	Charles Edwin Kendall.
Arthur James Amos.	Douglas William Kent-Jones.
Leonard Anderson.	James Grieve King.
Stanley Angell.	Cyril Augustus Kloss.
Leonard Balmforth.	George Alfred Knight.
Charles Edward Barrs.	Walter George Leach.
Thomas Edwin Bashford.	Thomas Leigh.
Bernard Beilenson.	Alfred George James Lipscomb.
Alan Brewis Bell.	Ernest Basil Lisle.
Sidney Billbrough.	Austin Lowe.
James Blair.	Alan Thomas Mabbitt.
George Frederick Bloomfield.	Donald McDonald.
Clifford Kenneth Boundy.	Edmonds Frank MacTaggart.
Joane Hilton Bowes.	Harry Malkin Mason.
Reginald Frederick Bowles.	Norman Joseph Lane Megson.
John Braddock.	Herbert Meyer.
George Brearley.	Mary Eynon Miller.
John Joseph Ablett Brooks.	Allan Cuthbertson Monkhouse.
Henry Burman.	Albert Edward Moors.
James Alexander Burns.	Richard Harold Morgan.
Charles John Cadwallader.	Alfred Theophilus de Mouilpied.
Hubert Harold Chambers.	Geoffrey Dale Muir.
Gilbert Pendrill Charles.	Frank Donald Neech.
Arthur Cheshire.	William Gammie Ogg.
William Cullen.	Albert Ormrod.
Henry John Davis.	Ridland Owens.
Tom Dewing.	Frank Herbert Peakin.
James Herbert Dickin.	Frederick William Pritchard.
Lois Dickinson.	William Edward Raybould.
William Dickson.	M. C. Schaul.
Henry Dreyfus.	Donald Edwin Seymour.
George Dring.	Henry Geoffrey Smith.
Ronald Leslie Edwards.	James Fergus Smith.
Geoffrey Herbert Emmott.	Thomas Sidney Smith.
Herbert Firth.	Harold Stanier.
David Michael Freeland.	Stanley Stevens.
Harry Reginald Galleymore.	John Charles Stimson.
Nathan Goldenburg.	George Herbert Stott.
Izaak Goldrei.	Richard William Sutton.
Harold Hopwood Goldthorpe.	Frederick Tattersfield.
Sydney James Green.	Robert Alfred Victor Tayar.
Alec Walter Greenhill.	Basil Duperier Thornridge.
Melville Gregory.	Roy Warren Watridge.
Herbert Clewin Griffith.	James Bertram Ward.
John Davies Hamer.	Yvonne Mary Way.
Frederick Wardle Haywood.	George White.
James Wallace Hewitt.	John Chirstison White.
Ernest Henry Hopkins.	Leslie Thomas Douglas Williams.
Melvyn Hopley.	Robert David Williams.
Frederick Percival Hornby.	Robert Ballantyne Wilson.
Stanley Hornsby.	Claude Helm Wood.
Walter Edward Huggett.	William Woodhouse.
Frank Edmund Humphreys.	Arnold Woodmansey.
George Vaughton James.	Frank Major Wright.
Elizabeth Dent Johnson.	

GENERAL ANNOUNCEMENTS**BOARD OF TRADE.**

The Treasury have made an Order under Section 10 (5) of the Finance Act, 1926, as amended by Section 2 (1) of the Import Duties (Emergency Provisions) Act, 1939, exempting Benzoyl Chloride from Key Industry duty from February 26th, 1941, until June 30th, 1944.

Copies of the Treasury Order, which is entitled "The Safeguarding of Industries (Exemption) No. 1 Order, 1941," may be obtained from H.M. Stationery Office.

THE PHYSICAL SOCIETY.

The next meeting of the Colour Group will be held at 2.30 p.m. on Wednesday, April 30th, 1941, at the Royal Photographic Society, 16, Princes Gate, London, S.W. 7.

Demonstration. Mr. H. W. Ellis, B.Sc., F.I.C., will demonstrate the samples illustrating his paper on "Colour Tolerance," which he was unable to demonstrate at the last meeting on February 12th.

Paper and Discussion. A paper on "Colour Terminology" will be read by Mr. H. D. Murray, M.A., F.I.C., and will be followed by a discussion to which representatives of various trades have been invited to contribute.

Tea will be served at 4.30 p.m.

LIST OF APPLICATIONS FOR FELLOWSHIP

(Fellows wishing to lodge objections to the election of any of these candidates should communicate with the Honorary Secretaries not later than Monday 14th April. Such objections will be treated as confidential. The forms of application are displayed in the Library.)

Archer, Frederick Stanley, A.I.C., British. Tirionva, Gwalshmai, Holyhead. Research Chemist, D.S.I.R.

Signed by : A. E. Findley, T. P. Hilditch, R. R. Butler.

Armour, John, B.Sc. Hons. (Lond.), A.I.C., A.M.I.Chem.E., Assoc.M.Inst. Gas E., British. 150, Berwick Drive, Cardonald, Glasgow, S.W. 2. Works Chemist.

Signed by : Percy C. Austin, F. R. Storrie, W. M. Cumming.

***Barker, Reuben Lloyd**, B.Sc. Hons. (Dun.), 2½ years Post Graduate Research (Organic) at King's College. British. 11, Marina Avenue, Sutton, St. Helens. Research Chemist.

Signed by : George A. Swan, R. Raper, G. R. Clemo.

Bassett, Cecil Abell, B.Sc. (Birm.), F.I.C., British. 14, Colebrook Avenue, Ealing, W. 13. Research Chemist.

Signed by : L. H. Lampitt, E. B. Hughes, R. L. Collett.

Broughall, Frederick George, B.Sc. Hons. (Birm.), A.I.C., British. 33, Bernard Road, Edgbaston, Birmingham, 17. Chief Chemist to the Midland Tar Distillers, Ltd.

Signed by : Geo. King, R. H. Hopkins, Garfield Thomas.

Brown, Clifford, B.Sc. Hons. and M.Ed. (Leeds), A.I.C., British. Presteigne, 260, Higham Lane, Nuneaton. Senior Science Master at King Edward VI School.

Signed by : J. W. Baker, H. Burton, E. Rothstein.

***Brown, Richard**, B.Sc. (Dun.), British. 273, Marshall's Cross Road, St. Helens. Research Chemist.

Signed by : G. R. Clemo, Richard Raper, George A. Swann.

Bryant, Charles Sidney, M.A. (Oxon.), B.Sc. (Lond.), F.I.C., British. Shrewsbury, Salop. Research Chemist.

Signed by : R. C. Farmer, A. Marshall, R. L. Collett.

Burton, Donald, M.B.E., D.Sc. (Leeds), F.I.C., British. About 50 papers alone and in collaboration in the J.C.S., J. Int. Soc. Leather Trades' Chemist, J. Soc. Chem. Ind., etc. Rose Hill Tannery, Bolton. Chief Chemist.

Signed by : F. S. Spring, H. T. Openshaw, J. Madinaveitia.

* Reduced Annual Subscription.

- Calver, Marjorie**, B.Sc. Hons. (Glas.), A.I.C., A.R.T.C., British. 43, Dunglass Avenue, Scotstoun, Glasgow, W. 4. Assistant Chemist to W. Beattie, Ltd.
Signed by : M. M. J. Sutherland, John A. Cranston, Nora I. Good.
- Cameron, Hugh Keith**, B.Sc., Ph.D. (Lond.), A.I.C., British. 14, Lawns Court, The Avenue, Wembley Park. Research Chemist to the General Electric Co., Ltd.
Signed by : F. S. Hawkins, R. Le Rossignol, R. L. Collett.
- Carter, John Stanley**, Ph.D., M.Sc. (Leeds), F.I.C., British. 26, St. John's Road, Golders Green, N.W. 11. Inspector of Alkali, etc. Works.
Signed by : R. Lessing, R. Taylor, L. R. B. Pearce, Thomas McLachlan.
- Chater, Charles William**, B.Sc. Hons. (Lond.), A.I.C., British. 79, Jeymer Drive, Greenford. Senior Analytical and Research Chemist to Messrs. J. Lyons and Co., Ltd.
Signed by : E. B. Barnes, Philip Bilham, L. H. Lampitt.
- Coates, Alan Harry**, B.Sc. (Lond.), A.I.C., British. 50, Long Lane, Dalton, Huddersfield. Analytical Chemist.
Signed by : J. Masson Gulland, R. L. Collett, E. B. R. Prideaux.
- Coates, Harold**, B.Sc. (Lond.), A.R.C.S., British. 103, Hurlingham Road, Fulham, S.W. 6. Research Student at Imperial College.
Signed by : D. H. Hey, G. A. R. Kon, E. R. H. Jones.
- Coats, Robert Reid**, B.Sc. Hons. (Glas.), A.I.C., British. 18, Douglas Street, Motherwell. Industrial Chemist.
Signed by : James D. Loudon, James Bell, David T. Gibson.
- Dargie, Andrew**, B.Sc. (St. Andrews), A.I.C., Scottish. 140, Perth Road, Dundee. City Analyst for Dundee, County Analyst for Perthshire, Kinross-shire, Angus, and Fifeshire.
Signed by : J. F. Tocher, Alex. Findlay, W. Godden.
- Dewhurst, John Reginald**, B.Sc. Hons. (Lond.), A.I.C., A.K.C., British. Walton's Hall, Stanford-le-Hope, Essex. Research Chemist to a Gas Company.
Signed by : E. V. Evans, E. A. Bucknell, A. J. Allmand.
- Dunning, Eric William Bee**, B.Sc. (Lond.), A.I.C., M.Inst. Gas E., British. 51, Castle Road, Salisbury. Chemist.
Signed by : A. B. Densham, A. G. Lidstone, R. L. Collett.
- Edwards, Harold**, F.I.C., British. Glenmoor, Queensway, Shotton, Chester. Manager of a Steelworks.
Signed by : A. E. Findley, R. R. Butler, R. L. Collett.
- Fairlie, Andrew Miller**, B.Sc. Hons. Tech. Chem. (Glas.), A.I.C., British. 18, Mount Stuart Street, Shawlands, Glasgow. Analytical and Research Chemist to Messrs. Shanks and Co., Ltd.
Signed by : F. R. Storrie, W. M. Cumming, S. Horwood Tucker.
- Firth, Fred**, A.I.C., British. 17, Thorn Lane, Leeds, 8. Chief Chemist to Leeds Corporation Gas Department.
Signed by : H. J. Hodsman, G. Hagues, J. W. Baker.
- Fisher, Ernest Sidney**, B.Sc. (Lond.), A.I.C., British. 70, Stanmore Road, Edgbaston, Birmingham. Research Chemist to Bakelite, Ltd.
Signed by : J. Masson Gulland, John C. Roberts, F. R. Bradbury.
- Forstner, George Eric**, M.Sc. (Birm.), A.I.C., British. Bracadale, Temple Close, Watford. Chemist.
Signed by : L. H. Lampitt, E. B. Hughes, P. Bilham.
- Gillham, Eric William Frederick**, B.Sc. (Lond.), A.I.C., British. 4, The Byeways, Surbiton. Junior Chemist to the Fulham Borough Council Electricity Department.
Signed by : H. Lambourne, M. Taylor, R. L. Collett.
- Haddon, Cuthbert Leslie**, M.Sc. (Dun.), A.Inst.P., F.I.C., British. Birnam, The Park, Newark-on-Trent. Chief Chemist to British Plaster Board, Ltd.
Signed by : C. H. Desch, P. Philips Bedson, W. F. Short.
- Hamence, Jack Hubert**, M.Sc., Ph.D. (Lond.), F.I.C., British. Hillview, 43, Westland Drive, Hayes, Kent. Public Analyst and Consulting Chemist.
Signed by : Bernard Dyer, George Taylor, H. E. Cox.

- Hammond, George Lewis**, B.Sc. (Lond.), A.I.C., British. Chemical Inspection Department, Royal Ordnance Factory.
Signed by : Robert H. Pickard, Cecil H. Wilson, R. L. Collett.
- Hampton, Wilfred Marsh**, Ph.D., B.Sc. (Lond.), F.Inst.P., Fellow Illum. Eng. Soc., A.I.C., British. c/o Messrs. Chance Bros. and Co., Ltd. Director of Research.
Signed by : W. E. S. Turner, C. J. Peddle, R. L. Collett.
- Hanson, Norman William**, B.Sc. and Ph.D. (Wales), A.I.C., British. "Portencross," 276, Langley Road, Slough. Research Chemist.
Signed by : Henry Brunner, A. G. Pollard, E. G. Noble.
- Holmes, Frederick**, B.Sc. (Lond.), A.I.C., British. Cambrian Street, Aberystwyth. Temporary Assistant in Government Chemists Department.
Signed by : Charles A. Adams, J. F. Hirst, A. T. Horton.
- Honeyman, John**, M.A. and B.Sc. Hons. (St. Andrews), British. 16, Cornton Road, Bridge of Allan. Industrial Chemist.
Signed by : J. C. Irvine, John Read, John Dewar.
- Jackman, Frank Arthur**, B.Sc. (Lond.), A.I.C., British. 105, Ellesmere Road, Dollis Hill, N.W. 10. Technical Chemist.
Signed by : Julian M. Leonard, H. W. Cremer, F. A. Greene.
- Kendrick, Stanley Gordon**, B.Sc. (Lond.), F.I.C., British. "Hawthorndene," The Dell, Bexley, Kent. Manager, Messrs. Barnett and Foster, Ltd.
Signed by : A. P. L. Blaxter, R. W. Stevenson, R. L. Collett.
- *Kohnstam, George**, B.Sc. (Lond.), British. Bailsend, Kingsway, Gerrard's Cross. Research Chemist in Industry.
Signed by : C. K. Ingold, E. B. Hughes, H. G. Poole.
- Levy, Guildford Albert**, B.Sc., Ph.D. (Edin.), British. The University, Edinburgh. Assistant in Pharmacology Department of the University.
Signed by : E. G. V. Percival, H. G. Rule, Neil Campbell.
- Long, Sidney Howard**, B.Sc. (Lond.), British. 16, Fairfield Lane, Farnham Royal, Slough. Works Chemist.
Signed by : W. Rogie Angus, H. J. Evans, L. F. Gilbert.
- Lowe, Leonard Thornton**, B.Sc. Hons. (Manc.), F.I.C. National Diploma in Agriculture. British. Institute of Agriculture, Usk. Lecturer in Agricultural Chemistry.
Signed by : G. H. Purvis, F. S. Kernick, R. L. Collett.
- Lunge, George Henry**, M.A. (Cantab.), D.Sc. (Geneva), F.I.C., British. Packington House, Ashby-de-la-Zouch. Managing Director of British Ecla Co., Ltd., and Works Manager to Messrs. Clutson and Kemp, Ltd.
Signed by : James G. Fife, Robert H. Pickard, R. L. Collett.
- Lythgoe, Norman Frank**, A.I.C., British. 595, Woodchurch Road, Prenton, Birkenhead. Analytical and Research Chemist.
Signed by : Harold Jaspersen, A. McGookin, R. R. Butler.
- Machin, Eric James**, M.A. (Cantab.), 1st Class Nat. Sci. Tripos, Part I. British. 25, Mead Road, Cheltenham. Chief Biology Master at Cheltenham Grammar School since May, 1940.
Signed by : A. J. Berry, B. C. Saunders, F. W. Rixon.
- MacMahon, Leonard Cecil**, B.Sc. (Lond.), A.I.C., British. Linden, Springfield Avenue, Knottingley. Research Chemist.
Signed by : E. B. Maxted, W. B. Brown, P. S. Gordon.
- McQuillen, Thomas**, B.Sc. (St. Andrews), British. Brownrigg, Holton, Lancaster. Chief Chemist to Messrs. James Williamson and Son, Ltd.
Signed by : John Read, Rowland Williams, John Dewar.
- Maillard, Edmund Frederick**, B.Sc. (Lond.), A.I.C., British. 6, York Square, E. 14. Chemist.
Signed by : Wm. H. Woodcock, R. H. Harry Stanger, Henry J. S. Sand.
- Mason, Arthur Forrester**, British. 38, Belgrave Road, Higher Crumpsall, Manchester, 8. Works Manager of Manufacturing Chemists.
Signed by : G. Lawson, W. M. Cumming, Alfred R. Cumming.

* Reduced Annual Subscription.

- Mather, Robert**, B.Sc. Tech. Hons. (Manc.), A.I.C., Assoc.M.C.T., British. Pleasant View, Holcombe, near Bury. Research Chemist to a Colour Company.
Signed by : J. Kenner, W. Bradley, H. Stromberg.
- Moir, Hugh Clouston**, B.Sc. (Glas.), A.I.C., Scottish. 18, Clevedon Drive, Burnside, Rutherglen. Chief Chemist to Beattie's Bakeries, Ltd.
Signed by : M. M. J. Sutherland, Henry G. A. Anderson, John A. Cranston, R. L. Collett.
- Mundy, Lillian Marjorie**, Ph.C., A.I.C., British. Cornerway, Redlane, Claygate, Surrey.
Signed by : T. E. Wallis, Wilfrid H. Linnell, R. L. Collett.
- Murray, Robert Hugh**, B.Sc. Hons. (Birm.), British. 104, Richmond Hill, Langley, Birmingham. Chemist (Research and Analytical).
Signed by : L. H. Lampitt, A. E. Bradfield, E. B. Hughes.
- Palmer, Neil**, A.I.C. Associate City and Guilds Finsbury College. British. Kenwood, Buckham Thorns Road, Westerham. Chief Chemist to Messrs. Hovis, Ltd.
Signed by : Horatio Ballantyne, R. L. Collett, K. A. Williams.
- Prince, Alfred John**, M.Sc. (Lond.), F.I.C., M.I.Chem.E., British. Imperial Chemical Industries, Ltd. Chemist.
Signed by : A. Eric J. Vickers, M. P. Applebey, J. G. M. Bremer, Peter W. Reynolds.
- Sanders, Alexander**, F.I.C., M.I.Chem.E., British. Avonmouth, Bristol. Assistant Works Director.
Signed by : R. L. Collett, Morris W. Travers, E. L. Hirst, E. B. Maxted.
- Simmons, William Hall**, F.I.C., British. Chemist to the Royal Gunpowder Factory. Civil Servant.
Signed by : Denis I. Duveen, T. W. Jones, R. L. Collett.
- Spriggs, Herbert John**, B.Sc. (Lond.), A.I.C., Ph.C., British. 6, Stone Hall Road, Winchmore Hill, N. 21. Chief Chemist to the International Chemical Co., Ltd.
Signed by : Katharine H. Coward, L. A. Warren, R. L. Collett.
- Squance, Norman William**, B.Sc. (Lond.), A.I.C., British. 98, Kenwyn Drive, N.W. 2. Assistant in Government Laboratory.
Signed by : E. H. Nurse, A. T. Parsons, R. L. Collett.
- Strouts, Charles Richard Noel**, B.A., B.Sc. (Oxon.), A.I.C., British. Chemist i/c Laboratory at the Royal Ordnance Factory.
Signed by : J. P. T. Pearman, F. Douglas Miles, R. L. Collett.
- Thomas, Henry Augustus**, B.Sc. Hons. and Ph.D. (Birm.), A.I.C., British. Cartref, 21, Avondale Avenue, Hazel Grove, Cheshire. Chemist and Technical Manager to Messrs. Courtaulds, Ltd.
Signed by : W. N. Haworth, E. L. Hirst, J. Kenyon N. Jones.
- Walker, George Henry**, received analytical and metallurgical training under the supervision of a well-known Public Analyst, gaining considerable experience in all types of chemical analyses and research work; attended up to the outbreak of war a series of lectures on Chemistry, etc., well beyond Inter. B.Sc. Is an approved Air Ministry Chemist. British. The White House, Little Aston Park, Streetly. Engaged by Mr. Joseph Lones.
Signed by : Joseph Lones, V. S. George, Percy A. Tucker.
- *Watkins, Thomas Iswel**, B.Sc. 1st Class Hons. and M.Sc. (Wales), A.I.C., British. Duffryn, Glanezrafon Road, Sketty. Research Chemist.
Signed by : J. E. Coates, L. E. Hinkel, E. Roberts.
- Whiting, Gilbert Harry**, B.A. Hons. (Oxon.), Ph.D. (Sheffield), English. "Upton," Moss Bank Road, St. Helens. Scientific Officer to a factory.
Signed by : W. E. Jones, F. N. Woodward, G. N. Burkhardt.
- Wild, John Leslie**, B.Sc. Hons. (Lond.), A.I.C., British. Alkmaar, 50, Kewstoke Road, Stoke Bishop, Bristol, 9. Works Manager and Chemist to a firm of Brewing Sugar Refiners and Manufacturers.
Signed by : E. L. Hirst, W. E. Garner, E. B. Maxted.

Wilson, Herbert Newton, F.I.C., English. Rookwood, Rookwood Road, Nunthorpe, near Middlesbrough. Analyst to a firm of Chemical Manufacturers.

Signed by : A. Eric J. Vickers, M. P. Applebey, R. L. Collett.

Wood, Eric Charles, B.Sc. (Lond.), A.R.C.S., F.I.C., British. 31, Chantry Close, Kenton, Middlesex. Chief Chemist to Virol, Ltd.

Signed by : R. H. Purcell, G. H. Cheesman, R. L. Collett.

Wylie, Andrew Robertson, A.H.W.C. (Edin.), A.I.C., British. Scotswood, Penn Road, Beaconsfield. Vice-Chairman and Joint Managing Director, Messrs. Winsor and Newton, Ltd.

Signed by : Robert G. M. Dakers, James Sandilands, R. L. Collett.

UNDER SPECIAL PROVISION APPERTAINING TO APPLICANTS RESIDENT ABROAD :

Austin, Frederick James, Pharmaceutical Chemist (Univ. of Michigan). Author of scientific articles. American. 126, Greene Avenue, Brooklyn, New York, U.S.A. Chief Chemist of Analytical and Research Laboratory, Richard Hudnut and William R. Warner and Co., Inc.

Signed by : Foster Dee Snell.

PAPERS RECEIVED

List of papers received between February 20th and March 24th, 1941. (This list does not include the titles of papers which have been read at a Scientific Meeting or which have appeared in the *Journal*.)

"Nitrous acid as a nitrating and oxidising agent. Part IV. Some *N*-dialkylanilines."

By H. H. HODGSON and D. E. NICHOLSON.

"Experiments in the triazine and imidazole series." By A. H. COOK and D. G. JONES.

"Syntheses of (1) glycerol and propylene glycol from propylene and (2) ethylene glycol from ethylene." By D. M. NEWITT and P. S. MENE.

"The triterpene group. Part VIII. The minor triterpenoid constituents of manila elemi resin (*cont.*)" By (MISS) I. M. MORICE and J. C. E. SIMPSON.

"The magnitude of the solvent effect in dipole-moment measurements. Part IV. The additive character of the atom polarisation." By A. AUDSLEY and F. R. GOSS.

"The distribution of nicotine between trichloroethylene and water." By J. REILLY, D. F. KELLY, and (MISS) M. O'CONNOR.

"The dismutation of some disulphides. Part IV." By F. S. FOWKES and E. W. MCCLELLAND.

"Molecular volume and structure. Parts I and II." By T. W. GIBLING.

"*Cannabis Indica*. Part VII. The relation between chemical constitution and hashish activity. I." By P. B. RUSSELL, A. R. TODD, S. WILKINSON, A. D. McDONALD, and G. WOOLFE.

"The salts of diphenic acid with optically active bases." By (MISS) M. S. LESSLIE, E. E. TURNER, and E. R. WINTON.

"The synthesis of *N*-trimethylglycylcholine." By T. S. WORK.

"Some further reactions of diphenic anhydride." By F. BELL and F. BRIGGS.

"5-Amino-1-aryl-3-methylpyrazoles." By F. BELL.

"The mutarotation of ethyl alcoholic solutions of 1-menthyl benzoylformate." By M. M. JAMISON and E. E. TURNER.

"Reactions of hydrazoic acid. Part I." By L. H. BRIGGS, G. C. DE ATH, and S. R. ELLIS.

ADDITIONS TO THE LIBRARY.

I. *Donations.*

BALY, E. C. C. Photosynthesis. London 1940. pp. viii + 248. ill. 15s. net. (*Recd.* 24/2/41.) From the Author.

BAYER PRODUCTS, LTD. Clinical Excerpts: a monthly journal devoted to therapeutics. Vol. XI, etc. London 1936+. (*Reference.*)

From Dr. K. Wallersteiner.

CLARE, MARTIN. The motion of fluids, natural and artificial, in particular that of the air and water. London 1735. pp. xvi + 323 + xxiii. ill. (*Reference.*)

From Mr. R. Murdin Drake, O.B.E.

JACKSON, [JOHN]. The substance of twelve lectures on select subjects in natural philosophy, intended to illustrate the present state of science. Delivered in . . . 1824, and taken in short hand by JOSEPH BROADER. London 1825. pp. xviii + 444. ill.

From Mr. R. Murdin Drake, O.B.E.

JORDAN, OTTO. The technology of solvents. Translated by ALAN D. WHITEHEAD. 2nd edition. London 1940. pp. xxx + 357. ill. 25s. net. (*Recd.* 6/3/41.)

From the Publishers: Messrs. Leonard Hill.

PARKES, SAMUEL. The chemical catechism. 13th edition, by E. W. BRAYLEY. London 1834. pp. xl + 681. ill.

From Mr. R. Murdin Drake, O.B.E.

VOGEL, ARTHUR I. A text-book of qualitative chemical analysis. 2nd edition. London 1941. pp. xii + 486. ill. 10s. 6d. (*Recd.* 4/3/41.)

From the Publishers: Messrs. Longmans, Green & Co.

II. *By purchase.*

ADDICKS, LAWRENCE. [Editor.] Silver in industry. New York 1940. pp. viii + 636. ill. \$10. (*Recd.* 20/2/41.)

BURDON, R. S. Surface tension and the spreading of liquids. Cambridge 1940. pp. xii + 85. ill. 7s. 6d. net. (*Recd.* 20/2/41.)

CASIMIR, H. B. G. Magnetism and very low temperatures. Cambridge 1940. pp. x + 95. ill. 6s. net. (*Recd.* 20/2/41.)

CLARK, GEORGE L. Applied X-rays. 3rd edition. New York 1940. pp. xviii + 674. ill. \$6. (*Recd.* 20/2/41.)

CRUMPLER, THOMAS B., and YOE, JOHN H. Chemical computations and errors. New York 1940. pp. xiv + 247. ill. \$3. (*Recd.* 20/2/41.)

FICKLEN, JOSEPH B. Manual of industrial health hazards; comprising the occurrence and uses, the properties, clinical symptomatology, permissible standards, physiological responses, and methods for the evaluation of

over ninety noxious vapors, gases and dusts. West Hartford 1940. pp. 176. ill. (*Reference.*) \$4.

GADDUM, J. H. Pharmacology. London 1940. pp. xvi + 407. ill. 17s. 6d. net. (*Recd.* 20/2/41.)

GETMAN, FREDERICK H. The life of Ira Remsen. Easton, Pa. 1940. pp. viii + 172. ill. \$2.50. (*Recd.* 20/2/41.)

GLASSTONE, SAMUEL. Text-book of physical chemistry. New York 1940. pp. xiv + 1289. ill. \$10. (*Recd.* 24/2/41.)

GREEN, DAVID E. Mechanisms of biological oxidations. Cambridge 1940. pp. viii + 181. ill. 12s. 6d. net. (*Recd.* 20/2/41.)

HARVEY, E. NEWTON. Living light. Princeton 1940. pp. xvi + 328. ill. \$4. (*Recd.* 12/2/41.)

HAYHURST, H. Insect pests in stored products. London 1940. pp. xii + 83. ill. 15s. net. (*Recd.* 20/2/40.)

HOPKINS, B. SMITH. Chapters in the chemistry of the less familiar elements. Champaign 1938-40. pp. [494]. \$5. (*Recd.* 20/2/41.)

LAWRIE, J. P. Methane, its production and utilization. London 1940. pp. 66. ill. 6s. net. (*Recd.* 20/2/41.)

MCCORMACK, HARRY. [Editor.] The applications of chemical engineering. New York 1940. pp. x + 431. ill. \$3.75. (*Recd.* 20/2/41.)

MOORE, ELWOOD S. Coal; its properties, analysis, classification, geology, extraction, uses and distribution. 2nd edition. New York 1940. pp. x + 473. ill. \$6. (*Recd.* 20/2/41.)

PARTINGTON, J. R. Chemical thermodynamics. 3rd edition. London 1940. pp. x + 230. ill. 14s. net. (*Recd.* 20/2/41.)

PRESCOTT, SAMUEL CATE, and DUNN, CECIL GORDON. Industrial microbiology. New York 1940. pp. x + 541. ill. \$5. (*Recd.* 20/2/41.)

RHEOLOGICAL MEMOIRS. Edited by EUGENE C. BINGHAM. Vol. I, No. 1. Experimental investigations upon the flow of liquids in tubes of very small diameter [1846]. By JEAN LEONARD MARIE POISEUILLE. Translated by WINSLOW H. HERSHEL. Easton, Pa. 1940. pp. x + 101. (*Reference.*) \$2.50.

RUHEMANN, M. The separation of gases. Oxford 1940. pp. xiv + 283. ill. 21s. net. (*Recd.* 20/2/41.)

SCHOELLER, W. R., and POWELL, A. R. The analysis of minerals and ores of the rarer elements. 2nd edition. London 1940. pp. xvi + 308. 18s. net. (*Recd.* 20/2/41.)

WILSON, PERRY W. The biochemistry of symbiotic nitrogen fixation. Madison 1940. pp. xiv + 302. ill. \$3.50. (*Recd.* 11/3/41.)

III. Pamphlets.

BAYER PRODUCTS, LTD. "Cantan" therapy. ("Bayer" Vitamin C.) London [n.d.]. pp. 60.

— The circulatory hormone "Padutin." London [n.d.]. pp. 67.

— "Lacarnol" and its therapeutic application. London [n.d.]. pp. 46. ill.

— "Prontosil": a survey of the new chemotherapy. London 1938. pp. 71.

INSTITUTE OF CHEMISTRY OF GREAT BRITAIN AND IRELAND. Empire mineral resources and their relation to the war effort. 23rd Street-

feild Memorial Lecture. By SYDNEY J. JOHNSTONE. London 1941. pp. 85. ill.

MOHAMED, A. F. The distribution of hydrogen-ion concentration in the North-Western Indian Ocean and adjacent waters, with an appendix on the determination of hydrogen sulphide in sea-water withdrawn from certain samples of mud collected from the North-Western Indian Ocean. (From the *Sci. Reports John Murray Expedition, 1933-34, 1940, 2.*) ill.

NICOLLE, JACQUES. Étude quantitative de l'absorption du protoxyde d'azote dans l'ultra-violet. Paris 1940. pp. 34. ill.

RESEARCH ASSOCIATION OF BRITISH RUBBER MANUFACTURERS. [Organisation and description of laboratories.] Croydon [1940]. pp. 16. ill.

THE CHEMICAL SOCIETY

NOTICE OF FORTHCOMING MEETINGS.

IN LONDON.

Thursday, May 15th, at 4.15 p.m. The **Eighth Liversidge Lecture**, entitled "Complex Formation," to be given by Professor N. V. Sidgwick, C.B.E., M.A., Sc.D., F.R.S., at Burlington House.

Thursday, June 19th, at 4.15 p.m. **Tilden Lecture**, entitled "Vitamins of the B Group," to be given by Professor A. R. Todd, D.Sc., D.Phil., at Burlington House.

OUTSIDE LONDON.

LEEDS.

Tuesday, May 13th, at 7.30 p.m. The **Eighth Liversidge Lecture**, entitled "Complex Formation," to be given by Professor N. V. Sidgwick, C.B.E., M.A., Sc.D., F.R.S. To be held in the Chemistry Lecture Theatre of the University.

LIVERPOOL.

Thursday, May 1st, at 5 p.m. **Lecture** on "Chemical Research in Electrical Industry," by Dr. J. Brisler, F.I.C. Joint meeting with the Liverpool University Chemical Society. To be held in the Lecture Theatre of the University.

OXFORD.

Friday, May 30th, at 2.30 p.m. **Seventh Pedler Lecture**, entitled "Recent Developments in the Chemistry of the Carbohydrates," by Professor W. N. Haworth, D.Sc., F.R.S. To be held in the Biochemistry Department, University Museum.

PROCEEDINGS

OF THE

CHEMICAL SOCIETY.

MEETINGS OUTSIDE LONDON.

LECTURE AT LIVERPOOL, FEBRUARY 13th.

A meeting of the Society was held jointly with the Liverpool University Chemical Society in the Lecture Theatre of the University, at 4 p.m., when Professor H. D. Wright delivered a lecture on "Recent Research on the Nutrition of Bacteria."

The lecturer began by stating that owing to their minuteness, bacteria cannot be identified by appearance alone, but also by their chemical and physiological activities.

Pasteur, although able to grow non-pathogenic bacteria easily in solutions of known chemical composition, was unable to cultivate pathogenic bacteria except in extracts of the organs of animals which the disease could attack. Later it was found that similar extracts from any animals would suffice, sometimes accompanied by blood, yeast, etc. A few bacilli, notably those causing leprosy and syphilis, have not been cultivated.

Light only began to be shed on the problem of bacterial nutrition when skilled chemists and skilled bacteriologists began to collaborate. Gradually the various essential factors required to grow different bacilli emerged. Professor Wright conceived the idea that bacteria might fail to grow because of an inhibitory factor in the medium, and not because it was inadequate. A substance could induce growth either as a nutrient or by neutralising something which prevented growth: thus peptone failed because it contained copper, but succeeded in the presence of blood. p_H and oxidation-reduction potential were found to be important. Many bacteria would only thrive in an atmosphere containing CO_2 .

Fildes stressed the necessity of employing very pure reagents, since 0.1—1 per cent. of amino-acids is sufficient to lead to erroneous conclusions. He showed that some bacteria have remarkable synthetic power, whilst the parasitic bacilli must be supplied with enzymes and other complex substances essential to their life. The parasitic bacteria may gradually be caused to acquire greater synthetical ability, and their nutritive needs resemble those of animals, thus affording a glimpse of evolutionary processes.

Since the discovery of the therapeutic action of the sulphanilamides it has been found that chemotherapeutic compounds may act either by removing some essential nutrient or by competing successfully with such a nutrient for an essential enzyme. Fildes accordingly suggested the use of substituted essential factors in chemotherapy. In this way a directive influence has been given to the study of this problem.

SOUTH WALES.

LECTURE AT SWANSEA, MARCH 20th.

A meeting of the Society was held jointly with the University College of Swansea Chemical Society at 5.30 p.m. in the Chemistry Lecture Theatre, University College, Swansea, with Professor J. E. Coates, Local Representative, in the Chair.

Professor C. S. Gibson, O.B.E., M.A., Sc.D., F.R.S., delivered a lecture on "The Life and Work of Sir William Jackson Pope," in the course of which he stressed mainly the development of Pope's great researches in stereochemistry, including his classical discovery that optical activity could be produced by asymmetric atoms other than carbon, and the outstanding advance which he made in this field when he prepared compounds of which the optical activity could not be ascribed to the asymmetric configuration of any one atom, but only to the asymmetry or dissymmetry of the molecule as a whole. The way

in which Pope's life-long interest in crystallography influenced his researches was also clearly brought out. Speaking of him as teacher, colleague, and friend, Professor Gibson showed his audience a man of strong character and withal of deep human sympathy and understanding, who lived a full life, by no means narrowly academic.

After the lecture Mrs. W. G. Palmer spoke in personal appreciation and reminiscence of Pope at Cambridge. A vote of thanks to Professor Gibson for a notable memorial lecture which will be remembered by his hearers was proposed by Mr. B. Walters, seconded by Dr. L. E. Hinkel, and cordially carried.

LECTURE AT CARDIFF, MARCH 21st.

A joint meeting of the Society with the local sections of the Institute of Chemistry and the Society of Chemical Industry was held at 5.45 p.m. in the Physics Lecture Theatre, University College, Cardiff, with Dr. N. M. Cullinane in the Chair.

Professor C. S. Gibson, O.B.E., M.A., Sc.D., F.R.S., delivered a most interesting lecture on "More Recent Investigations on the Organic Chemistry of Gold," in which he dealt with the structures of the dialkyl gold derivatives of amines and of aliphatic and aromatic dibasic acids, and also discussed the most probable constitution of tetraethylsulphatodigold. In the discussion which followed Dr. N. M. Cullinane, Dr. D. P. Evans, and Dr. J. F. J. Dippy took part. A cordial vote of thanks to the lecturer was proposed by Mr. H. Ll. Bassett, seconded by Mr. S. B. Watkins, and enthusiastically received.

Minutes of a SCIENTIFIC MEETING

held at Burlington House, London, W. 1, on Thursday, April 24th, 1941, at 4.15 p.m.

The President, Professor J. C. PHILLIP, O.B.E., D.Sc., F.R.S., was in the Chair, and welcomed the visitors present.

The minutes of the Scientific Meeting on April 4th and 18th, 1940, were taken as read, and were confirmed and signed.

The PRESIDENT referred to the loss sustained by the Society, through death, of the following Fellows :

<i>Honorary Fellow.</i>	Elected.	Died.
Herbert F. Freundlich	1938	March 29th, 1941.
<i>Fellows.</i>		
Antony N. Fitzgerald	1906	March 15th, 1941.
Francis E. Francis	1902	April 14th, 1941.
Arthur Lapworth	1894	April 5th, 1941.

FORMAL ADMISSION OF FELLOWS.

The following were formally admitted Fellows of the Chemical Society : Herbert C. Griffith, Charles E. Barrs, Isaac Berg, Frank M. Wright, George Dring, and Douglas C. Hancock.

TILDEN LECTURE.

After a brief introduction, the President called on Professor H. W. Melville to deliver his Tilden Lecture, entitled "Some Themes in the Chemistry of Macromolecules."

A vote of thanks to the Lecturer was then moved from the Chair and carried with acclamation.

OFFICIAL ANNOUNCEMENTS

CONGRATULATIONS.

The PRESIDENT stated that messages of congratulation had been received from the Royal Society and Mr. J. D. Johnson regarding the Centenary of the Society.

CONTRIBUTIONS.

The thanks of the Council had been conveyed to Mr. J. C. Jennings for a contribution to the Publications Fund, and to I.C.I., Ltd., and Dr. A. F. Campbell for presenting publications of the Society.

FELLOWSHIP.

14 Fellows had been reinstated, and the following 65 candidates had been elected Fellows on April 24th.

Frederick Stanley Archer.	Frank Arthur Jackman.
John Armour.	Stanley Gordon Kendrick.
Frederick James Austin.	George Kohnstam.
Reuben Lloyd Barker.	Guildford Albert Levvy.
Cecil Abell Bassett.	Sidney Howard Long.
Frederick George Broughall.	Leonard Thornton Lowe.
Clifford Brown.	George Henry Lunge.
Richard Brown.	Norman Frank Lythgoe.
Charles Sidney Bryant.	Eric James Machin.
Donald Burton.	Leonard Cecil MacMahon.
Marjorie Calver.	Thomas McQuillen.
Hugh Keith Cameron.	Edmund Frederick Maillard.
John Stanley Carter.	Arthur Forrester Mason.
Charles William Chater.	Robert Mather.
Alan Harry Coates.	Hugh Clouston Moir.
Harold Coates.	Lilian Marjorie Mundy.
Robert Reid Coats.	Robert Hugh Murray.
Andrew Dargie.	Neil Palmer.
John Reginald Dewhurst.	Alfred John Prince.
Eric William Bee Dunning.	Alexander Sanders.
Harold Edwards.	William Hall Simmons.
Andrew Miller Fairlie.	Herbert John Spriggs.
Fred Firth.	Norman William Squance.
Ernest Sidney Fisher.	Charles Richard Noel Strouts.
George Eric Forstner.	Henry Augustus Thomas.
Eric William Frederick Gillham.	George Henry Walker.
Cuthbert Leslie Haddon.	Thomas Iswel Watkins.
Jack Hubert Hamence.	Gilbert Harry Whiting.
George Lewis Hammond.	John Leslie Wild.
Wilfred Marsh Hampton.	Herbert Newton Wilson.
Norman William Hanson.	Eric Charles Wood.
Frederick Holmes.	Andrew Robertson Wylie.
John Honneyman.	

LIST OF APPLICATIONS FOR FELLOWSHIP

(Fellows wishing to lodge objections to the election of any of these candidates should communicate with the Honorary Secretaries not later than Monday 12th May. Such objections will be treated as confidential. The forms of application are displayed in the Library.)

Alexander, William Alastair, B.Sc. (Lond.), A.I.C. British. 11, Arden Street, Edinburgh. Analytical and Consulting Chemist.

Signed by : Russell G. Thin, James Sandilands, Hugh B. Nisbet.

Allam, Philip Sidney, B.Sc. (Lond.), A.I.C., F.C.I.P.A. British. Bush House, Aldwych, W.C. 2. Patent Agent.

Signed by : F. G. Donnan, H. Drake Law, James G. Fyfe.

Allison, Harry, B.Sc. (Reading), A.I.C. British. 41 Meadow Drive, Portmadoc. Works Chemist.

Signed by : J. L. Simonsen, L. N. Owen, G. R. Ramage.

Anderson, Frank William, B.Sc. (Lond.), A.I.C. English. 20, Lulworth Close, South Harrow.

Signed by : H. Jephcott, F. A. Robinson, B. Arthur Hems.

- Armour, Janet Foote**, B.Sc. (Glas.) British. 22, Nottingham Avenue, Glasgow, W. 2. Chemist United Dairies (Scotland), Ltd.
Signed by : J. W. Cook, John W. Kerr, T. S. Stevens.
- Ashmore, Stanley Arthur**, B.Sc. (Lond.), F.I.C. British. Strand, W.C. 2. Senior Chemist in Government Laboratory.
Signed by : F. R. Ennos, J. W. J. Fay, E. H. Warren.
- Bailey, George Cooper**, B.Sc. (Lond.), F.I.C. British. 68, Belgrave Road, Ilford. Captain R.A. Late Chemist to Gas Light and Coke Co.
Signed by : W. G. Adam, Chas. A. Ray, F. M. Potter.
- Bain, Harold Graeme**, B.Sc., M.Sc., Ph.D. (Cape Town), A.I.C. British. c/o McMurray, 36, Sidney Street, Saltcoats, Ayrshire. Chemist.
Signed by : F. Douglas Miles, A. G. White, J. Weir.
- Baird, Kirk**, A.I.C. British. 1, Kingsville Road, Bebington. Chemist to Lever Brothers and Unilever, Ltd.
Signed by : F. Montague Dyke, J. R. Edisbury, A. D. Scott.
- Balfe, Bernard James**, B.Sc. Hons. (Lond.) A.I.C. British. Stowmarket. Research Chemist to I.C.I. (Paints), Ltd.
Signed by : John W. Corran, R. L. Edwards, P. F. Stoton.
- Banks, Adam**, B.Sc. and Ph.D. (L'pool), A.I.C. British. Aberdeen. Scientific Officer, D.S.I.R.
Signed by : Stephen R. H. Edge, W. Godden, Alex. Findlay.
- Banks, Reginald Joseph Henry**, B.Sc. Hons. (Lond.), A.I.C. British. Eastern Esplanade, Southend-on-Sea. Chemist (Research and Process control), Gas Works.
Signed by : H. Hollings, H. M. Royle, W. A. Voss.
- Bann, Bernard**, B.Sc. Hons., and M.Sc. (Manc.), A.I.C. British. 3, Wellington Grove, Stockport. Research Chemist to Manchester Oxide Co.
Signed by : W. Bradley, Denis Dickinson, T. K. Walker.
- Beaumont, Glynne Wentworth**, F.I.C. British. Harbourmaster's Old House, Liverpool. Partner in firm of Analysts.
Signed by : F. Robertson Dodd, A. P. Telford, A. E. Findley.
- Bennister, Henry Leonard**, M.Sc. (Lond.), A.R.C.S., D.I.C., A.I.C. British. 3, Englewood Road, Clapham Common, S.W. 12. Industrial Chemist.
Signed by : Anthony Cambitzi, Alexander King, H. J. T. Ellingham.
- Bennitt, John Hector**, M.A. (Cantab.), A.I.C. British. Tyseley, Birmingham. Research Chemist.
Signed by : T. T. Jones, J. A. V. Potter, J. W. Hewitt.
- Benoliel, Maurice Haim**, Inter B.Sc. (Manc.) British. Oak House, New Longton. Works Chemist.
Signed by : Colin Campbell, Colin Core, E. Taylor.
- Bhattacharya, Ramkanta**, M.Sc. (Allahabad), Ph.D. (L'pool), F.I.C. British. Grassmarket, Edinburgh. Officer in charge of a Research Laboratory.
Signed by : A. McGookin, R. A. Morton, T. S. Subramamian.
- Billing, Joseph**, A.I.C. British. 41, Sunny Grove, Chaddesden. Works Chemist.
Signed by : D. S. M. Davis, Allan Domleo, William Alexander Dickie.
- Blayden, Herbert Edward**, B.Sc. Hons. (Lond.), Dip. Pure and Applied Chem., Mining and Tech. Coll., Wigan. British. 35, Granville Drive, Forest Hall. Senior Research Chemist to the Northern Coke Research Laboratory.
Signed by : H. L. Riley, Wesley Cocker, C. E. Mallen.
- Boscott, Ronald Joseph**, A.I.C., Ph.C. British. 20, Cecile Park, Crouch End, N. 8. Chemist to a firm of Chemical Manufacturers.
Signed by : R. R. Bennett, Francis H. Carr, P. G. Marshall.
- Bradley, George William James**, F.I.C., M.I.Gas Eng., A.R.P.S. British. Birchill Lodge, Hasland. Manager of Coke Oven Department of The Grassmoor Co., Ltd.
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Signed by : James C. Philip, H. J. T. Ellingham, R. H. Purcell, H. V. A. Briscoe.
- Pound, Albert**, M.Sc. (Lond.), A.I.C. British. 56, Valleyfield Road, Streatham, S.W. 16. Technical Assistant to Chartered Patent Agents.
Signed by : William H. Ballantyne, Thos. B. Clerk, Thomas McLachlan.
- Rance, Herbert Frederick**, B.Sc., Ph.D. (Lond.), A.R.C.S., D.I.C., A.I.C. British. Gray's Cottage, Candlemas Lane, Beaconsfield. Research Chemist.
Signed by : Alex Findlay, Leslie H. Lampitt, R. L. Collett.

- Rance, Robert George**, B.Sc. (Lond.), A.I.C. British. 8, Lyndhurst Avenue, Norbury, S.W. 16. Research and Works Chemist to W. J. Bush & Co., Ltd.
Signed by : Henry E. Stevenson, H. W. Vernon, Percy C. C. Isherwood.
- Rendle, Theodore**, F.I.C. British. "The Poplars," Histon, Cambridge. Chief Chemist and Senior Technical Manager, Chivers & Sons, Ltd.
Signed by : A. L. Bacharach, E. B. Hughes, Leslie H. Lampitt.
- Reynolds, Ralph Frederick**, A.I.C. British. 52, Lingfield Avenue, Kingston-on-Thames, Assistant Chemist to T. B. Andre Rubber Co.
Signed by : H. L. Long, Malcolm Crawford, Eric M. Stoddart.
- Rheinlander, Arthur Henry**, M.Sc. (Lond.), F.I.C. British. The Laboratory, E.C. 3. Senior Chemist in the Department of the Government Chemist.
Signed by : T. W. Harrison, J. Longwell, A. A. W. Russell.
- Rhodes, William Kenneth**, A.I.C. English. 95, Hastings Street, Marshfields, Bradford. Analytical Chemist.
Signed by : J. J. Fox, Robert H. Pickard, R. L. Collett.
- Richardson, Henry Martin**, B.Sc. Hons. (L'pool), A.I.C. British. 119, The Avenue, Harpfield, Stoke-on-Trent. Research Chemist.
Signed by : F. H. Clews, A. McGookin, R. A. Morton.
- *Roberts, Emyr**, B.Sc. Hons. (Wales). British. 118, Ormerod Street, Accrington. Research Chemist with The Calico Printers' Assoc., Ltd.
Signed by : J. L. Simonsen, W. K. Birtwistle, G. R. Ramage, L. N. Owen.
- Robinson, Charles Herbert Preston**, M.P.S., Diploma in Biochemical Analysis. British. 19, Brick Kiln Lane, Mansfield. Pharmacist in charge of a Dispensary and Biochemical and Pathological Laboratory.
Signed by : F. Wilson Moulds, E. M. Durham, John C. Roberts.
- Robinson, Frederick John**, A.I.C., M.I.Chem.E. British. 20, Ashleigh Road, Solihull. Works Manager.
Signed by : H. V. Potter, George Dring, E. G. K. Pritchett.
- Rogans, Edward Stanley Fairfield**, A.I.C. British. 59, Hopwood Gardens, Tunbridge Wells. Chief Chemist, Molassine Company.
Signed by : George Taylor, Lewis Eynon, S. Judd Lewis.
- Rooke, Horace Samuel**, M.Sc. (Birm.), F.I.C. British. "Berachah," Swakeleys Road, Uxbridge. Research Chemist.
Signed by : Leslie H. Lampitt, E. B. Hughes, A. E. Bradfield.
- Rosebery, Marcus**, B.Sc. (Lond.), A.R.C.S., A.I.C. British. 14, Burnham Road, Liverpool. Research Chemist and Departmental Manager.
Signed by : R. A. Morton, A. McGookin, T. P. Hilditch.
- Ross, George Ronald Percival**, M.Sc. (Leeds), A.I.C. British. Ditton, Widnes. Research Chemist, The Forestal Land, Timber and Railways Co., Ltd.
Signed by : J. J. Fox, B. A. Ellis, R. L. Collett.
- Ross, Peter**, B.Sc. (Glas.), A.I.C., A.R.T.C. Royal Technical College, Glasgow. British. 21, Great Western Road, Glasgow, C. 4. Admiralty Laboratory.
Signed by : John A. Cranston, F. J. Wilson, I. Vance Hopper.
- Rumford, Frank**, B.Sc. (Lond.), F.I.C., A.M.I.Chem.E. British. Royal Technical College, Glasgow. Lecturer in Technical Chemistry.
Signed by : W. M. Cumming, A. B. Crawford, I. Vance Hopper.
- Savage, Ronald Henry Maxwell**, B.A. (Cantab.), F.I.C. British. 19, Derwent Avenue, Mill Hill, N.W. 7. Chemist.
Signed by : Frank Dickens, Eric K. Rideal, H. McCombie.
- Settle, Richard Hardcastle**, B.A. (Cantab.), F.I.C. British. 42, Stoke Road, Taunton. Chemist (Higher Grade), Government Laboratory.
Signed by : J. R. Nicholls, A. G. Francis, Francis G. H. Tate.
- Sharp, David Easton**, B.Sc. (Aberd.), F.I.C. British. 77, Eglinton Road, Ardrossan. Technical Chemist.
Signed by : Norman Picton, J. J. Fox, R. L. Collett.

- Shaw, Frank**, B.Sc. and M.Sc. (Lond.), A.R.C.S., D.I.C., A.I.C. British. Corporation Street, Birmingham, 4. Dairy Chemist.
Signed by : G. A. Jeffrey, F. J. Llewellyn, F. Smith.
- Shepherd, Evelyn Henry**, B.Sc. (Lond.), F.I.C. British. 3, Caroline Place, Claughton, Birkenhead. Chemist.
Signed by : R. F. Hunter, G. P. Gibson, A. D. Scott.
- Simmons, Thomas Arthur**, B.Sc. (Lond.), F.I.C. British. 18, Rumbold Road, Edgerton, Huddersfield. Chemist and Works Department Manager.
Signed by : H. Swann, E. H. Rodd, Samuel Coffey.
- Simmons, William Hall**, F.I.C., A.M.I.Chem.E. British. Waltham Abbey. Chemist.
Signed by : Denis Ian Duveen, John Rankin, J. Kenyon.
- Skilling, William James**, A.R.T.C., F.I.C. British. Royal Technical College, Glasgow. Officer-in-charge, Fuel Research Board, D.S.I.R.
Signed by : John A. Cranston, I. Vance Hopper, Nora Innes Good.
- Smee, Frederick Henry**, M.Sc. (Lond.), A.I.C. British. Chapel Lane, High Wycombe. Works Chemist.
Signed by : Thos. Macara, L. C. Campbell, Eileen M. Chatt.
- Smith, Reginald Francis**, B.Sc. Hons. (Lond.), A.I.C. British. 66, Wychwood Avenue, Canons Park, Edgware. Analytical Chemist.
Signed by : Leslie H. Lampitt, E. B. Hughes, A. E. Bradfield.
- Somers, Arthur Joseph**, B.Sc. (Lond.), A.I.C., A.R.C.S. British. Daneshill, Oxshott, Leatherhead. Sales Manager.
Signed by : James C. Philip, A. A. Eldridge, C. W. Davies.
- Stammers, Douglas William**, Ph.D. and B.Sc. (Lond.), A.I.C. British. "Leighwood," 3, Holland Road, Manchester. Research Chemist.
Signed by : Samuel Coffey, Percy Chorley, G. A. Rowe.
- Stevens, William Stanley**, B.Sc. Hons. (Lond.), A.I.C., Dip. Loughborough College. British. 19, High Street, Castle Donington, nr. Derby. Research Chemist.
Signed by : C. Whitworth, J. M. Connolly, G. Malcolm Dyson.
- Stevenson, Samuel Gordon**, M.Sc., B.Pharm (Lond.), F.I.C., Ph.C., A.M.I.Chem.E. British. The Peak, Vyne Road, Basingstoke. Chief Chemist to Messrs. Eli, Lilly & Co., Ltd.
Signed by : A. L. Bacharach, F. A. Robinson, W. H. Linnell, B. Arthur Hems.
- Stuart, Noel**, B.Sc. and Ph.D. (L'pool), A.I.C. British. Wyncote, Dunsdon Avenue, Guildford. Joint Chief Chemist to a firm of manufacturers of Milk Foods and other milk products.
Signed by : John W. Corran, A. McGookin, Francis W. Kay.
- Tait, John William**, M.A., B.Sc. (Edin.), F.I.C. British. 9, South Beach Road, Ardrossan. Assistant Research Manager.
Signed by : J. Weir, F. Douglas Miles, N. Picton.
- Taylor, Wallace**, B.Sc. Hons. and M.Sc. (Manc.), A.I.C. British. Carrington Cottage, Leigh Road, Leigh. Research Chemist.
Signed by : W. Bradley, T. K. Walker, Denis Dickinson.
- Thomas, Harold Norman**, B.Sc. (Leeds), A.I.C. British. 6B, Selbourne Road, Watford. Assistant (Grade III) in the D.S.I.R. (Water Pollution Research Station).
Signed by : A. Parker, J. Grindley, J. F. Hopkins.
- Thomson, John Kirk**, Ph.D. (Glas.), A.R.T.C., A.I.C. British. Wyngate, Majors Place, Falkirk. Research Chemist.
Signed by : P. J. Loveluck, E. G. Beckett, J. L. Grieve.
- Thomson, Thomas**, B.Sc. and Ph.D. (Glas.), A.I.C. British. 28, Irvine Road, Kilmarnock. Research Chemist.
Signed by : Norman Picton, Robert W. E. Preston, T. S. Stevens, F. R. Storrie.
- Thompson, Frank Clifford**, M.Sc. (Dun.), A.I.C. British. The Agricultural Institute, Kirton. Agricultural Chemist.
Signed by : G. R. Clemo, R. Raper, C. E. Mallen.

Trower, Geoffrey John, A.I.C., A.R.C.S. British. The Laboratory, Messrs. Roneo, Ltd., Romford. Plant and Process Control.

Signed by : J. E. B. Price, H. I. T. Ellingham, James C. Philip.

Tucker, John Morgan, B.Sc. (Lond.), F.I.C. British. Undercliffe, Kirkhead Road, Grange-over-Sands. Industrial Chemist. Consulting Practice Cereals, Feeding Stuffs, Foods.

Signed by : F. Robertson Dodd, A. P. Telford, A. E. Findley.

Vale, Alan Leslie, B.Sc. (Lond.), F.I.C. British. 40, Granville Road, Blackburn. Chemist and Bacteriologist to Messrs. Duttons, Blackburn Brewery, Ltd.

Signed by : F. Bell, J. E. Wynfield Rhodes, F. P. Dunn.

Walker, Thomas Richard, M.A. (Cantab.), F.I.C. British. 11, Broomgrove Crescent, Sheffield. Chief Chemist and Technologist to a Steel Works.

Signed by : N. D. Ridsdale, Arthur W. Chapman, R. L. Collett.

Waller, Leo James, A.I.C., Ph.C. British. 37, London Road, Croydon. Analytical Chemist.

Signed by : C. T. Bennett, J. C. Crocker, Douglas C. Harrod.

Ward, Leslie James, B.Sc. Hons. (Lond.), A.I.C. British. 42, Derry Downs, St. Mary Cray. Assistant II. Chemical Inspection Dept., Ministry of Supply.

Signed by : J. E. Crofts, F. Barrow, F. J. Woodman.

Watson, James Kerr, B.Sc. Hons. (Glas.), A.I.C. British. 176, Ledard Road, Langside, Glasgow. Analytical and Works Control Chemist.

Signed by : Robert W. G. Preston, T. S. Stevens, F. R. Storrie.

Wheatley, Robert, B.Sc. (Leeds), F.I.C., F.I.R.I. British. Lasswadebank, Polton Road, Lasswade. Works Manager to a Rubber Company.

Signed by : W. Lawson, J. W. Baker, H. J. Hodsman.

Wheeler, Edgar Philip, B.Sc. (Lond.), A.I.C. British. 47, Park Hill Road, Wallington. Analytical Chemist.

Signed by : Francis H. Carr, W. A. Johnson, Noel L. Allport.

Whitehouse, Alan George Raine, M.Sc., Ph.D. (Birm.), F.I.C. British. 15, Wye Cliff Road, Handsworth, Birmingham, Staff Chemist.

Signed by : R. H. Hopkins, E. G. Cox, W. J. Hickinbottom, S. R. Carter, F. Smith, C. R. Porter.

Whitelegg, Cyril James, M.Sc.Tech. (Manc.), F.I.C., A.T.I. British. Hollin Cottage, Styal, Manchester. Chemist.

Signed by : Wm. Scholes, R. L. Collett, J. J. Fox, B. A. Ellis.

Wilkinson, Donald Graham, B.Sc., Ph.D. (L'pool), A.I.C., British. 2, Carver Avenue, Prestwich, Manchester. Research Chemist.

Signed by : Arnold Kershaw, Samuel Coffey, C. L. Wilson.

Wilson, William John, F.I.C., A.C.G.I., F.Inst.Pet. British. Fairlawn, Honor Oak Road, Forest Hill, S.E. 23. Head of Research Department, The Burmah Oil Co., Ltd.

Signed by : A. E. Dunstan, Donald N. L. Besly, S. F. Birch.

Withell, Ernest Ronald, B.Sc. and B.Pharm. (Lond.), Ph.C., A.I.C. British. Central Technical College, Birmingham, 2. Head of Dept. of Pharmacy and Biology.

Signed by : J. Newton Friend, J. Cooper Duff, R. H. Vallance.

Worthington, Henry, B.Sc., Ph.D. (L'pool), A.I.C. British. 40, Shaw Street, St. Helens. Research Chemist, I.C.I. Dyestuffs, Ltd.

Signed by : Percy Chorley, A. W. Baldwin, H. A. Piggott.

UNDER SPECIAL PROVISION APPERTAINING TO APPLICANTS RESIDENT ABROAD.

Strausz, Hugo Johann, Ph.D. (Halle), Chem. Engineer. German, previously Czecho-Slov. and Hungarian. N.W. 3.

Signed by : T. F. West.

* Reduced Annual Subscriptions.

PAPERS RECEIVED

List of papers received between March 24th and April 24th, 1941. (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 photo-decomposition of gaseous acetone. Part II." By R. SPENCE and W. WILD.
 "A synthesis of dihydroindole, dihydrothionaphthen, and dihydrobenzofuran." By G. M. BENNETT and M. M. HAFEZ.
 "Optically active $\alpha\gamma$ -diethylallyl alcohol." By B. C. PLATT.
 "The condensation of 6-amino-2-hydroxypyridine with *p*-acetamidobenzenesulphonyl chloride." By M. A. PHILLIPS.
 "Electrolytic dissociation processes. Part III. The exchange of radio-bromine between inorganic and organic bromides." By F. FAIRBROTHER.
 "The constituents of natural phenolic resins. Part XIX. The action of formalin on 4-keto-6:7-dimethoxy-1-veratryl-1:2:3:4-tetrahydronaphthalene-2-carboxylic acid." By R. D. HAWORTH and G. SHEDRICK.
 "The separation of ozone from other gases." By J. L. EDGAR and F. A. PANETH.
 "The determination of ozone and nitrogen dioxide in the atmosphere." By J. L. EDGAR and F. A. PANETH.
 "The pinacol-pinacolone rearrangement of phenyl-substituted benzopinacols." By H. H. HATT, A. PILGRIM, and (MISS) E. F. M. STEPHENSON.
 "The formation of methylene ethers by the action of diazomethane on α -ketolactones and on diphenyl-1:2:3-triketone, with a note on the pyrolysis of coumarandione and allied substances." By A. SCHÖNBERG, R. MOUBASHER, and (in part) (MISS) A. MOSTAFA.

ADDITIONS TO THE LIBRARY

I. Donations.

BRITISH PLASTICS YEAR BOOK, 1941. The handbook and guide to the plastics industry. London 1941. pp. 468. (*Reference*.) 15s. net.

From the Publishers: Plastics Press, Ltd.

BRITISH RUBBER PUBLICITY ASSOCIATION. Abstracts of patents relating to rubber latex. By T. R. DAWSON and R. W. PARRIS. A supplement to "Rubber latex." London 1941. pp. vi + 136. (*Recd.* 13/3/41.)

From the Association.

KHIMIYA TVERDOGO TOPLIVA. (Chemistry of Solid Fuel.) Vols. II-VIII. Leningrad 1931-37. (*Reference*.) [Vols. IV, V, and VIII *incomplete*.] From Dr. R. Lessing.

STENHOUSE, JOHN. Laboratory book. [A MS. volume dating from 1854-1872, recording analyses made for clients, with many original letters inserted.] From Dr. R. Lessing.

TEPLOSILVOE KHOZYAISTVO. (Heat and Power Economy.) Vols. XV and XVI. [*Incomplete*.] Moscow 1939-40. (*Reference*.)

From Dr. R. Lessing.

ZECHMEISTER, L., and CHOLNOKY, L. Principles and practice of chromatography. Translated from the 2nd German edition by A. L. BACHARACH and F. A. ROBINSON. London 1941. pp. xviii + 362. ill. 25s. net. (*Recd.* 1/4/41.)

From the Translators.

II. By Purchase.

HIGH POLYMERS. A series of monographs on the chemistry, physics, and technology of high polymeric substances. Vol. I. Collected papers of WALLACE HUME CAROTHERS. Edited by H. MARK and G. STAFFORD WHITBY. New York 1940. pp. xx + 459. ill. \$8.50. (*Recd.* 3/4/41.)

— — — Vol. II. Physical chemistry of high polymeric systems. By H. MARK. Translated from the manuscript by K. SINCLAIR. Revised by J. EDMUND WOODS. New York 1940. pp. x + 345. ill. \$6.50. (*Recd.* 3/4/41.)

III. Pamphlets.

CALCAGNI, G. La conducibilità elettrica. Genova 1940. pp. 56.

HARRY, RALPH G. "Skin penetration." (From the *Brit. J. Derm.*, 1941, 53.) ill.

INDIAN TEA ASSOCIATION. *Tochlai Experimental Station*. Annual Report—1939. Calcutta 1940. pp. 33.

UNITED STATES. *Department of Agriculture*. Miscellaneous Publication No. 387. Turpentine still buildings and equipment. Washington 1940. pp. 43. ill.

May 1941

THE CHEMICAL SOCIETY

NOTICE OF FORTHCOMING MEETING.

IN LONDON.

Thursday, June 19th, at 4.15 p.m. **Tilden Lecture**, entitled "Vitamins of the B Group," to be given by Professor A. R. Todd, D.Sc., D.Phil., at Burlington House.

PROCEEDINGS
OF THE
CHEMICAL SOCIETY.

MEETINGS OUTSIDE LONDON.

LECTURE AT CARDIFF, APRIL 18th.

A meeting of the Society was held jointly with the local sections of the Institute of Chemistry and the Society of Chemical Industry at 6 p.m. on Friday, April 18th, 1941, at the University College, Cardiff, when Dr. Janet W. Matthews delivered a **lecture** entitled, "Some Recent Developments in Microchemistry." The lecturer surveyed the methods available for microchemical analysis in both the inorganic and the organic fields. In addition to an exhibition of apparatus, three films were shown in which the manipulation of minute apparatus was demonstrated. In the discussion which followed Dr. D. P. Evans, Mr. Kernick, and Dr. N. M. Cullinane (the Chairman) took part. A cordial vote of thanks to the lecturer was proposed by Mr. D. Hicks, seconded by Mr. de Lacy and enthusiastically received. There were forty persons present.

LECTURE AT LEEDS, MAY 13th.

A large and enthusiastic audience gathered to hear the **Eighth Liversidge Lecture**, entitled "Complex Formation," delivered by Prof. N. V. Sidgwick, C.B.E., F.R.S., in the Large Chemistry Lecture Theatre of the University on Tuesday, May 13th, at 7.30 p.m., Professor R. Whytlaw Gray, F.R.S., occupying the chair. Thanks to the kind permission of Professor Sidgwick, this interesting and stimulating lecture was followed by a discussion to which many members contributed. A cordial vote of thanks to the lecturer, proposed by Professor M. G. Evans and seconded by Professor F. Challenger, was carried with acclamation.

**Minutes of a
SCIENTIFIC MEETING**

held at Burlington House, London, W.1, on Thursday, May 15th, 1941, at 4.15 p.m.

The **PRESIDENT**, PROFESSOR J. C. PHILIP, O.B.E., D.Sc., F.R.S., was in the Chair, and welcomed the visitors present.

The minutes of the Scientific Meeting on April 24th, 1941, were read, and confirmed and signed.

The **PRESIDENT** referred to the loss sustained by the Society, through death, of the following Fellows:

	Elected.	Died.
Lancelot S. Bagster.....	1933	14th March, 1940.
James Bell	1922	24th January, 1941.

FORMAL ADMISSION OF FELLOWS.

Dr. Hubert H. Chambers was formally admitted a Fellow of the Chemical Society.

EIGHTH LIVERSIDGE LECTURE.

After a brief introduction, the President called on Professor N. V. Sidgwick to deliver his **Liversidge Lecture**, entitled "Complex Formation."

A vote of thanks to the Lecturer, proposed by Professor W. Wardlaw and seconded by Dr. E. G. Cox, was carried with acclamation.

OFFICIAL ANNOUNCEMENTS

CONGRATULATIONS.

The PRESIDENT stated that an Address of Congratulation had been received from the Institute of Chemistry regarding the Centenary of the Society, and that he had conveyed the congratulations of the Council to Mr. A. E. Bell, Dr. R. P. Charles, Professor G. J. Fowler, Professor F. S. Kipping, Dr. A. Lauder, and Mr. A. Searl, who completed 50 years of Fellowship on May 7th, 1941.

CONTRIBUTION.

The PRESIDENT announced that £400 had been allocated to the Society by the Royal Society from the Rockefeller Foundation Grant in aid of Scientific Publications, and that the Council have conveyed the thanks of the Society to Professor W. E. Garner, Dr. H. G. Rule, Mr. F. W. Kirkbride, and Mr. W. G. Polack for contributions to the Publications Fund.

HARRISON MEMORIAL PRIZE.

In accordance with the Trust Deed governing the Harrison Memorial Fund, the Selection Committee consisting of the Presidents of the Chemical Society, the Institute of Chemistry, the Society of Chemical Industry, and the Pharmaceutical Society, will proceed to make an award of the Harrison Memorial Prize in December next.

The Prize, of the value of about £150, will be awarded to the chemist of either sex, being a natural-born British subject and not at the time over thirty years of age, who, in the opinion of the Selection Committee, during the previous five years has conducted the most meritorious and promising original investigations in any branch of pure or applied chemistry and published the results of those investigations in a scientific periodical or periodicals.

Provided that, in the opinion of the Selection Committee, there is a candidate of sufficient distinction to warrant an award of the Prize, the next award will be made in December, 1941.

Applications, five copies of which must be submitted, should contain the following information:—

- (a) Name (in full).
- (b) Age (Birth certificate must accompany application).
- (c) Degrees (name of University where obtained).
- (d) Other qualifications.
- (e) Experience.
- (f) Titles of published papers, with authors' names, including full references to publication.
- (g) Where research was carried out.
- (h) Testimonials or references.
- (i) Any other particulars bearing on the application.

The Selection Committee is prepared to receive applications, nominations, or information as to candidates eligible for the Prize. Any such communication must be received by

The President,
The Chemical Society,
Burlington House,
Piccadilly,
London, W.1.

not later than Monday, December 1st, 1941.

FIRE WATCHING.

In order that the Library of the Society may be fully safeguarded, offers of service are invited from Fellows who would be willing to volunteer to take part in the Fire Fighting Service at Burlington House. Offers of service have already been received, and it is

unlikely that any volunteer will be asked to serve more frequently than once in 14 days. A subsistence allowance of 5s. per night will be made and other out-of-pocket expenses will be met.

Fellows willing to volunteer are asked to communicate with the General Secretary.

FELLOWSHIP.

The resignations of 2 Fellows have been accepted, 4 Fellows have been reinstated, and the following 185 new Fellows have been elected :

William Alastair Alexander.	Alexander Peter Tawse Easson.
Philip Sidney Allam.	George William Ellis.
Harry Allison.	Wilfred Farrand Elvidge.
Frank William Anderson.	Harry Taylor Farrar.
Janet Foote Armour.	Franklin Farrington.
Stanley Arthur Ashmore.	William Hunter Ferguson.
George Cooper Bailey.	George James Watson Ferrey.
Harold Graeme Bain.	Kenneth George Fiegenheim.
Kirk Baird.	Eli Finklestone.
Bernard James Balfe.	Ernest Foley.
Adam Banks.	Wilfrid Francis.
Reginald Joseph Henry Banks.	Alan French.
Bernard Bann.	Norman Alfred Child Friend.
Glynn Wentworth Beaumont.	Water Furness.
Henry Leonard Bennister.	Eric Richard Gardner.
John Hector Bennett.	Walter Garner.
Maurice Haim Benoliel.	Kenneth William Gee.
Ramkanta Bhattacharya.	Alexander Gellman.
Joseph Billing.	Walter Joseph Gooderham.
Herbert Edward Blayden.	Alexander Brown Gordon.
Ronald Joseph Boscott.	Frank James Griffin.
George William James Bradley.	Leonard Arthur Haddock.
Thomas William Brandon.	Eric Morgan Hall.
John Calder Brash.	Kenneth Hailstone Handy.
Myer Briscoe.	Vernon Harbord.
John Ferguson Brown.	Bernard Ernest Harper.
Shuldham Archibald Burke.	William Harrison.
James Anthony Butcher.	Gerard Hart.
John Thornton Calvert.	John William Hawley.
Hugh Maitland Elliott Cardwell.	Kenneth John Hayden.
Norman Cecil Chandler.	Clifford Walter Herd.
Edgar John Chappel.	Alfred Henry Hewitt.
Ralph Clark Chirnside.	Bernard Hickson.
Harold William Christian.	Cyril Langley Hinton.
Leslie Victor Cocks.	John William Ingham.
Edward Barnard Colegrave.	Robert Faraday Innes.
Douglas Richard Keeler Coleman.	John McGregor Jackson.
James Stewart Cook.	Derek Evan Jarrett.
Percy Frederick Cooke.	Leonard Ellwood Jones.
Eric Leslie Cooper.	Geoffrey James Judge.
Charles William Cornwell.	James Kentish.
Robert Frederick Corran.	Matthew Arnold Kershaw.
Harold Edward John Cory.	James Donald Kidd.
Aynsley Crawford.	Kenneth Stanley Kirby.
John Crawford.	Norman Watson Knewstubb.
William Aethelbert Damon.	Douglas Lamping.
Peter Victor Danckwerts.	Henry Thomas Lester.
Albert Davies.	David Alexander Liddell.
Howard Merrett Davies.	Edgar Roberts Ling.
Trefor Davies.	John Arnold Lovern.
Gilbert Elliott Dodds.	William Joseph Lowe.
Cedric Alfred Friend Doe.	Bernard Dunstan Wilkinson Luff.
Gordon Watson Douglas.	Geoffrey Herbert Macadam.
Ernest Percy Driscoll.	George Walker McCrea.
John Gibson Duncan.	Percy McGregor.
John Ronald Macfarlane Duncan.	John Aitken Macnair.
George Geoffrey Durrant.	Ernest Marsden.
Neville Bingham Dyson.	Hubert Martin.

Albert Charles Mason.
 Edward Miller Melville,
 William John Metcalfe.
 John Robertson Muir.
 Donald Sanderson Naylor.
 Archibald Alan New.
 Ronald Frederick Nunn.
 George Frederick Oliver.
 Jasper Bartlett O'Sullivan.
 Edith Marie Pam.
 Deric William Parkes.
 Alfred Pass.
 Harry Paul.
 Ernest Pedley.
 Herbert Steffen Peiser.
 Robert Geoffrey Popple.
 Albert Pound.
 Herbert Frederick Rance.
 Robert George Rance.
 Theodore Rendle.
 Ralph Frederick Reynolds.
 Arthur Henry Rheinlander.
 William Kenneth Rhodes.
 Henry Martin Richardson.
 Emyr Roberts.
 Charles Herbert Preston Robinson.
 Frederick John Robinson.
 Edward Stanley Fairfield Rogans.
 Horace Samuel Rooke.
 Marcus Rosebery.
 George Ronald Percival Ross.
 Peter Ross.
 Frank Rumford.
 Ronald Henry Maxwell Savage.
 Richard Hardcastle Settle.

David Easton Sharp.
 Frank Shaw.
 Evelyn Henry Shepherd.
 Thomas Arthur Simmons.
 William James Skilling.
 Frederick Henry Smee.
 Reginald Francis Smith.
 Arthur Joseph Somers.
 Douglas William Stammers.
 William Stanley Stevens.
 Samuel Gordon Stevenson.
 Hugo Johann Strausz.
 Noel Stuart.
 John William Tait.
 Wallace Taylor.
 Harold Norman Thomas.
 John Kirk Thomson.
 Thomas Thomson.
 Frank Clifford Thompson.
 Geoffrey John Trower.
 John Morgan Tucker.
 Alan Leslie Vale.
 Thomas Richard Walker.
 Leo James Waller.
 Leslie James Ward.
 James Kerr Watson.
 Robert Wheatley.
 Edgar Philip Wheeler.
 Alan George Raine Whitehouse.
 Cyril James Whitelegg.
 Donald Graham Wilkinson.
 William John Wilson.
 Ernest Ronald Withell.
 Henry Worthington.

LIST OF APPLICATIONS FOR FELLOWSHIP

(Fellows wishing to lodge objections to the election of any of these candidates should communicate with the Honorary Secretaries not later than Monday, 16th June. Such objections will be treated as confidential. The forms of application are displayed in the Library.)

Abbott, Gordon Henry, M.A. (Oxon.), A.I.C. British. 9, Westcombe Park Road, Blackheath, S.E. 3. Works and Research Chemist.

Signed by : H. J. Emeléus, D. L. Chapman, R. Leslie Collett.

Allechin, John Pratt, A.I.C. British. 28, Yardley Road, Acocks Green, Birmingham. Chemist and Bacteriologist.

Signed by : J. N. Friend, R. H. Vallance, J. Cooper Duff.

Archard, Theodore Edward, M.Sc. (Lond.), A.I.C. British. White Hart Hotel, Boston, Lincs. Works Chemist with firm of Cannery.

Signed by : J. Masson Gulland, W. B. Adam, A. A. Eldridge.

Arundel, Edgar, B.Sc. (Lond.), F.I.C. British. Sherwood House, The Avenue, London Road, Newark-on-Trent, Notts. Analytical and Research Chemist.

Signed by : Henry Terrey, L. F. Gilbert, H. J. Evans.

Baldry, Frank, A.I.C. British. 14, Stonehaven Grove, Hall Green, Birmingham, 28. Analytical and Research Chemist.

Signed by : J. S. Jennings, Garfield Thomas, H. A. Caulkin.

***Baldwin, Robert Roy**, B.A. (Cantab.). British. 10, Oarside Drive, Wallasey, Cheshire. Research at Cambridge.

Signed by : C. H. Bamford, F. S. Dainton, G. J. Stacey.

- Barash, Michael**, Ph.D., M.Sc.Tech. (Manc.), M.Inst. Gas E., F.I.C. British. 70, Parsonage Road, Withington, Manchester, 20. Technical Officer, Mines Department.
Signed by : F. Fairbrother, G. N. Burkhardt, F. S. Spring.
- Barke, Harold Frederick**, F.I.C. British. 4, Charlton Road, Westbury-on-Trym, Bristol. Analytical and Consulting Chemist, Public Analyst.
Signed by : E. B. Maxted, E. L. Hirst, J. K. N. Jones.
- Barnett, George**, A.I.C. British. 103, Holly Lane, Smethwick, Staffs. Research Chemist, Bakelite, Ltd.
Signed by : T. T. Jones, E. G. K. Pritchett, George Dring.
- Barron, Lionel Fitzgerald**, M.Sc. (Lond.), A.I.C. British. 32, Upper Addison Gardens, Kensington, W. 14. Analytical Chemist.
Signed by : P. Bilham, E. B. Hughes, A. E. Bradfield.
- Bennett, William**, M.Sc. (Leeds), A.I.C. British. 53, Woodlands Road, Isleworth, Middlesex. Chief Process Chemist.
Signed by : F. Thomas, Arthur G. Green, Harry S. Sayer.
- Bills, Edwin John**, M.Sc. (Birm.), F.I.C. British. 17, George Frederick Road, Sutton Coldfield, Warwickshire. Research Chemist.
Signed by : J. S. Jennings, Garfield Thomas, H. A. Caulkin.
- Bills, William Walter**, A.I.C. British. 7, Glebe Avenue, Grappenhall, Warrington. Analytical Chemist.
Signed by : Rex Furness, J. P. Wilkinson, T. P. Hilditch.
- Bishop, Albert Edward**, B.Sc. (Lond.), A.I.C. British. 55, St. Mildred's Road, Lee, London, S.E. 12. Works Chemist.
Signed by : A. B. Bradley, C. W. A. Mundy, J. H. Greaves.
- Bowden, Sydney Roskrige**, B.Sc. (Lond.), A.R.C.S., A.I.C. British. 46, Nutberry Avenue, Grays, Essex. Chemist to a Cement Co.
Signed by : J. J. Fox, I. M. Heilbron, R. Leslie Collett.
- Breare, Arnold**, M.Sc. (Leeds), A.I.C. British. Redlestone, Airville Road, Burley-in-Wharfedale, nr. Leeds. Technical Manager and Asst. Works Manager to Messrs. Jas. Smith & Sons.
Signed by : Frederick M. Rowe, J. W. Baker, Arnold T. Peters, H. Burton.
- Brodrick, Charles Isaac**, B.Sc., Ph.D. (Leeds). British. 24, Edward Road, West Bridgford, Nottingham. Research Chemist.
Signed by : Frank Lee Pyman, W. Frank Short, Joseph Marshall.
- Bryan, William Stanger**, A.I.C. British. 48, Aldersey Gardens, Barking, Essex. Technical Director.
Signed by : A. E. Dunstan, Donald M. Besby, S. F. Birch.
- Bush, Frederick William**, B.Sc. (Lond.), A.I.C. British. 45, Magdalen Road, Wandsworth, S.W. 18. Chemist, Class A, Public Health Dept., London County Council.
Signed by : C. T. Regan, A. Houston, J. W. Smith.
- Butterworth, Samuel Walter**, B.Sc.Tech. (Manc.), F.I.C. British. 3, Montagu Crescent, Leeds, 8. Head of Dept. of Food Technology, College of Technology, Leeds.
Signed by : H. J. Hodson, Frederick Challenger, J. T. A. Townend.
- Byrne, Landon Francis**, B.Sc. (Lond.), A.I.C. British. Chemist.
Signed by : G. N. Burkhardt, Fred Fairbrother, A. E. Gillam.
- Campbell, John Reid**, Ph.D., B.Sc. (Glas.), A.R.T.C., F.I.C. British. 19, Stamperland Drive, Clarkston, Glasgow. Scientific Officer, Fuel Research Division, Department of Scientific and Industrial Research.
Signed by : I. Vance Hopper, M. M. J. Sutherland, A. B. Crawford.
- Chorley, Basil Houghton**, F.I.C. British. 6, Woodland Avenue, Meols, Cheshire. Chemist, Deputy-manager of oil refinery.
Signed by : W. R. Ormandy, H. Jasperson, C. Leslie Bibby.
- Clark, George Charles Harry**, A.I.C. British. Ilford, Essex. Research Chemist.
Signed by : Walter E. Huggett, T. W. Howard, R. Leslie Collett.

- Colln-Russ, Abraham**, B.Sc., Ph.D. (Lond.), F.I.C. British. 113, Pipers Hill Road, Kettering, Northants. Chief Chemist to the British Boot, Shoe and Allied Trades Research Association.
Signed by : A. Harvey, D. Jordan Lloyd, M. P. Balfe.
- Coppins, Walter Charles**, B.Sc. (Lond.), A.I.C. British. 140, Maidstone Road, Chatham, Kent. Metallurgical Chemist.
Signed by : A. C. C. Newman, J. J. Fox, R. Leslie Collett.
- Coucill, Joe Harrop**, A.I.C. British. 91, Cleveland Road, Crumpsall, Manchester, 8. Chemist, Imperial Chemical Industry (Dyestuffs).
Signed by : F. R. Cropper, E. Haworth, E. H. Rodd.
- Craig, Robert**, A.I.C. British. Lismore, Farrhall Road, Heswall, Cheshire. Chemical Engineer.
Signed by : R. F. Hunter, G. P. Gibson, A. D. Scott.
- Crockatt, Arthur John**, M.Sc. (Leeds). British. 231, The Vale, Acton, W. 3. Director, Associated Dyers and Cleaners, Ltd.
Signed by : Frederick M. Rowe, Reginald B. Brown, James Blair.
- Cropper, Frank**, B.Sc.Hons. (Manc.), A.I.C. British. 394, King's Road, Ashton-under-Lyne, Lancs. Works Manager and Chief Chemist.
Signed by : Colin Campbell, G. N. Burkhardt, J. B. M. Herbert.
- Crouch, Eric Arthur Crouch**. British. 27, Brookhill Road, Woolwich, S.E. 18. Student, King's College.
Signed by : G. M. Bennett, E. W. McClelland, C. S. Salmon, E. B. Maxted.
- Dagnall, Charles**, A.M.C.T., A.I.C. British. 7, Highfield Road, Lymm, Cheshire. Assistant Manager, Soap Works.
Signed by : Rex Furness, J. B. Wilkinson, G. King.
- Davies, David Richard Aylmer**, B.Sc.Hons. (Wales), A.I.C. British. College of Technology, Manchester. Experimental Officer, Chemical Inspection Department, Ministry of Supply.
Signed by : John Evans, Joseph E. Crofts, Archibald Orton Jones.
- Davies, Phillip Morey**, B.Sc.Hons. (Lond.), A.I.C. British. 27, Radcliffe Road, Winchmore Hill, London, N. 21. Research Chemist.
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Signed by : William Doran, A. McGookin, Francis W. Kay.
- Dick, William Douglas**, F.I.C. British. c/o Hugh Baird & Sons, Ltd., 113, Douglas Street, Glasgow, C. 2. Chief Chemist.
Signed by : M. M. J. Sutherland, Geoffrey D. Muir, I. Vance Hopper.
- Drummond, Allan Maclean**, B.Sc., Ph.D. (Glas.), A.I.C. British. 45, Westcoats Road, Cambuslang, Glasgow. Head of Science Department, Dalziel High School, Motherwell.
Signed by : Charles Buchanan, T. S. Stevens, James D. Loudon.
- Duncan, James Bothwell**, M.Sc. (Dunelm), F.I.C. British. 17, The Broadway, Tyne-mouth, Northumberland. Director and Works Manager of a Lead and Antimony Company.
Signed by : C. E. Mallen, G. R. Clemo, H. L. Riley.
- Eaton, Edward Foster**, A.I.C. British. Beeston, Leeds, 11. Chemist.
Signed by : W. A. Wightman, J. W. Baker, Frederick M. Rowe.
- Eduljee, Homi Eduljee**, B.Sc. (Rangoon), Ph.D. (Lond.), A.I.C., D.I.C. British. 7, Manson Place, Queen's Gate, S.W. 7. Chemical Engineer.
Signed by : Alfred C. Egerton, H. J. T. Ellingham, D. M. Newitt.
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Signed by : J. W. Hewitt, T. T. Jones, L. Hunter.

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Signed by : James D. Loudon, T. S. Stevens, John Robertson.

Ford, Walter Percy, M.A. (Cantab.), A.I.C. British. 18, Alcester Road, Sale, Cheshire. Chemist.

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Signed by : E. H. Rodd, Percy Chorley, A. Shepherdson.

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Signed by : Leslie H. Lampitt, E. B. Hughes, P. Bilham.

***Fysh, Derrick**, B.Sc. (Lond.). British. "Norrisbury," Methuen Avenue, King's Lynn, Norfolk. Post Graduate Research Student.

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Signed by : J. J. Fox, F. H. Garner, James G. Fife, J. A. Rawlinson.

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Signed by : J. Kenner, John K. Wood, O. Rhys Howell.

Gait, Alban James, M.Sc. (Lond.), F.I.C. British. c/o British Industrial Solvents, Ltd. Works Chemist.

Signed by : E. E. Connolly, Claude E. C. Nicholls, R. Leslie Collett.

Garratt, Donald Clarence, B.Sc., Ph.D. (Lond.), F.I.C. British. 7, Sundial Avenue, S. Norwood Hill, S.E. 25. Public Analyst.

Signed by : Herbert F. Stephenson, C. Kemplay, A. H. M. Muter.

Gilles, George Denholm, B.Sc. (Lond.). British. "Arlington," Shaw Crescent, Sanderstead, Surrey. Acting Staff Officer, Import Licensing Dept.

Signed by : C. W. Davies, A. Houston, J. Kenyon.

Gillison, Wilfred, B.A. (Cantab.), A.I.C. British. Chemical Inspection Department, Ministry of Supply.

Signed by : H. L. Bassett, N. M. Cullinane, S. T. Bowden.

Gordon, Joseph, A.I.C. British. Boundary Cottage, Philadelphia, Co. Durham. Manager of a Byproduct Works.

Signed by : Thos. Biddulph-Smith, Richard Raper, H. L. Riley.

Green, Arnold Trevor, F.I.C., F.Inst.Pet. British. Shelton, Stoke-on-Trent. Director of Research, British Refractories Research Association.

Signed by : F. H. Clews, H. V. Thompson, G. M. Bennett.

Green, Raymond George, B.Sc. (Lond.), A.I.C. British. 23, Garrard Road, Banstead, Surrey. Chemist.

Signed by : James Kewley, T. Martin, A. Tudhope, L. P. McHatton.

Gregory, John Goodland, B.Sc.Hons. (Lond.), A.I.C. British. Rockware Avenue, Greenford, Middx. Research Chemist.

Signed by : J. Kenyon, J. W. Smith, C. W. Davies.

- Griffiths, Harry Noel**, Ph.D., B.Sc. (Liverpool), A.I.C. British. c/o Southern Oil Co., Ltd., Manchester. Works Chemist.
Signed by : A. E. Williams, E. H. Rodd, Samuel Coffey.
- Hall, Norman Reginald**, F.I.C. British. 6, Occupation Road, Corby, nr. Kettering. Assistant Metallurgical Chemist.
Signed by : J. Newton Friend, J. Cooper Duff, R. H. Vallance.
- Hampson, Cyril Garforth**, B.Sc.Tech. (Manc.), A.I.C. British. 261, Holcombe Road, Greenmount, Bury, Lancs. Textile Chemist at Messrs. Horridge & Cornell, Ltd.
Signed by : W. Horridge, Harold Lowe, Frank Lee Pyman.
- Hare, Andrew Thomas Stewart**, A.I.C., A.H.W.C., A.I.I.A. British. 5, Townsends Place, Kirkcaldy, Fife. Works Manager, Michael Nain & Co., Ltd.
Signed by : Hugh B. Nisbet, James Sandilands, Robert G. M. Dakers.
- Harrington, Thomas**, B.Sc. (Lond.), A.I.C. British. Lower Lodge, Northop, nr. Mold, Flintshire. Analytical Chemist, Ministry of Supply.
Signed by : H. S. Hirst, R. A. E. Galley, N. F. Goodway.
- Harwood, John Holley**, B.Sc.Hons. (Lond.), A.I.C. British. Widnes. Research Chemist.
Signed by : P. F. R. Venables, J. D. Kendall, V. Gallafent.
- Hathaway, Henry William John**, B.Sc. (Lond.), A.R.C.S. British. 209, All Souls Avenue, Willesden, N.W. 10. Works Chemist.
Signed by : H. V. A. Briscoe, A. A. Eldridge, H. J. Emel us.
- Hayes, Arthur Ingrey**, British. 126, Winifred Road, Coulsdon, Surrey. Chemical Engineer and Works Manager.
Signed by : Jules Cofman-Nicoresi, Alexander H. Hayes, David Brownlie.
- Hayward, Lionel Alan Walter**, B.Sc.Hons. (Lond.), A.I.C. British. 9, Dean Court, Wembley, Middlesex. Chemist.
Signed by : Leslie H. Lampitt, G. H. Cheesman, E. B. Hughes.
- *Heap, Robert**, British. Sidney Sussex College, Cambridge. Research Student.
Signed by : B. A. Kilby, B. C. Saunders, N. B. Chapman.
- Hegan, Horace James**, B.Sc. (Lond.), A.I.C. British. 69, Kenilworth Road, Coventry. Research Chemist, Messrs. Courtaulds, Ltd.
Signed by : Walter H. Glover, Ernest E. Tallis, C. B. O. Jones.
- Henley, Vernon Frederick Frank**, B.Sc. (Lond.), A.I.C. British. 109, Wolmer Gardens, Edgware, Middlesex. Works Manager, Aluminium Protection Co., Ltd.
Signed by : A. G. Francis, F. S. Aumonier, F. R. Ennos.
- Hibbott, Hector Whittington**, M.Sc., B.Sc. Tech., and Ph.D. (Sheffield). British. 30, Manor Road, London, N. 16. Research Chemist.
Signed by : E. Gertrude Turner, T. B. Smith, J. C. Speakman.
- Hind, Herbert Lloyd**, B.Sc. (Lond.), F.I.C. British. 325, City Road, Manchester. Consulting Analytical Chemist.
Signed by : Julian L. Baker, R. H. Hopkins, Alex. K. Miller.
- Hiscock, Walter George**, B.Sc., Ph.D. (Lond.), F.I.C. British. Scottish Dyes, Ltd. Works Manager.
Signed by : Francis H. Carr, R. Leslie Collett, H. E. Cox.
- Hockin, B.Sc., Ph.D. (Bristol)**. British. 44, Druid Stoke Avenue, Stoke Bishop, Bristol. Works Manager.
Signed by : G. M. Bennett, E. B. Maxted, E. L. Hirst, C. E. H. Bawn.
- Hogg, Wilfrid Henry**, B.Sc. (Lond.), A.I.C. British. 36, Mayfield Road, Sutton Coldfield, Birmingham. Chemist, Process-Control.
Signed by : J. J. Fox, B. A. Ellis, R. Leslie Collett.
- Hopkins, Sidney John**, 15, Lavender Avenue, N.W. 9. Pharmaceutical Chemist. Senior Assistant in hospital laboratory. Author of Notes on "Adsorption Indicators," "A New Emulsifying Agent," "Protein Testing Solutions."
Signed by : C. Dor e, J. C. Crocker, J. C. Jordan.
- Hoult, Eric**, Assoc. M.C.T., A.I.C., British. 8, Victoria Avenue, Grappenhall, Warrington. Analytical Chemist.
Signed by : J. Kenner, John K. Wood, A. F. H. Ward.

- Hudson, Bertram James Frank**, M.A., B.Sc., and D.Phil. (Oxon.), A.I.C. British. 62, Rose Hill, Oxford. Research Chemist.
Signed by : S. G. P. Plant, J. C. Smith, R. B. Forster.
- ***Humphreys, Anthony**. British. Colden, Thorny Road, Douglas, I. of Man. Student. Candidate for Special Honours Degree.
Signed by : E. B. Maxted, G. M. Bennett, E. W. McClelland, C. S. Salmon, Gwyn Williams.
- Jackson, David Leonard Charles**, A.I.C. British. "High Firs," Shirwell Lane, Meriden, nr. Coventry. Chemist, British Nylon Spinners.
Signed by : Walter H. Glover, A. R. Runeckles, J. Newton Friend.
- Johnson, Ernest Norman**, M.Sc. (Leeds), Dip. in Dyeing (Leeds). British. Tudor House, Hinckley Road, Sapcote, Leicestershire. Research Chemist, Messrs. Courtaulds, Ltd.
Signed by : Walter H. Glover, Frederick M. Rowe, A. R. Runeckles.
- Jolly, Victor George**, Ph.D. (Lond.), F.I.C. British. The Walpamur Co., Ltd., Darwen, Lancs. Chief Chemist.
Signed by : H. V. A. Briscoe, C. E. Mallen, P. L. Robinson, G. C. Leitch.
- Jones, Leslie**, M.Sc. (Lond.), F.I.C. British. 36, Storeton Road, Oxton, Birkenhead. Works Chemist and Manager.
Signed by : J. J. Fox, B. A. Ellis, R. Leslie Collett.
- Kemp, John Arthur**, B.Sc. (Lond.). British. 50, Lansdowne Road, Sundridge Park, Kent. Technical Assistant to Chartered Patent Agents.
Signed by : William H. Ballantyne, Thos. B. Clerk, H. E. Cox.
- Kenny, Robert Leopold**, B.Sc. (Lond.), F.I.C. British. Great Church Lane, Hammer-smith, W. 6. Chief Chemist.
Signed by : J. C. Crocker, F. H. Lowe, L. J. Bellamy.
- Kenyon, James**, B.Sc.Hons. (Manc.), A.I.C. British. Lambley Lodge, Burton Joyce, Notts. Company Director.
Signed by : John C. Roberts, E. B. R. Prideaux, G. N. Burkhardt.
- Kieran, Alfred Joseph**, B.Sc., Ph.D. (Liv.), F.I.C., A.M.I.Chem.E. British. Freshford, Oxshott Way, Cobham, Surrey. Technical Adviser, Messrs. Lever Bros. & Unilever, Ltd.
Signed by : A. J. Allmand, I. M. Heilbron, T. P. Hilditch.
- Laird, Nathaniel**, A.M.I.C.E., A.M.I.Gas.E. Scots. c/o Adjutant General, Rex House, Lower Regent Street, S.W. 1. Engineer, Royal Marines.
Signed by : Fredk. S. Dainton, C. H. Bamford, T. P. Hughes.
- Lewcock, William**, M.Sc. (Lond.), A.I.C. British. 32, Speer Road, Thames Ditton. Chemist in charge, at Gas, Light & Coke Co. Works.
Signed by : H. Hollings, W. A. Voss, R. H. Griffith.
- Lewis, Philip Stacey**, Ph.D., B.Sc. (Liverpool), F.I.C. British. c/o National Smelting Co., Ltd. Works Manager.
Signed by : G. M. Bennett, E. B. Maxted, E. L. Hirst, C. E. H. Bawn.
- Licence, Arthur Benjamin Ceell**, F.I.C. British. Covar's Mead, Toot Hill, Ongar, Essex. Director of Research, Berry, Wiggins & Co., Ltd.
Signed by : C. W. Mobberley, C. Chilvers, E. B. Evans.
- ***Lipman, Cyril**, B.Sc. Hons. (Durham), Freine-Marrew Medal and Prize, D.Th.P.T. (Durham). British. 16, Wellesley Terrace, Dilston Road, Newcastle-on-Tyne, 4. Works Chemist, Messrs. Dickenson & Son.
Signed by : R. Raper, R. Nelson, G. R. Clemo.
- Lorimer, Henry**, B.Sc. (Glas.), A.I.C., A.R.T.C. British. Stanion Lane, Corby, Kettering. Assistant Coke Oven Manager.
Signed by : F. J. Wilson, I. Vance Hopper, A. B. Crawford.
- Love, John**, A.I.C. British. 5, Henderson Street, Paisley. Analytical Chemist.
Signed by : P. C. Austin, C. Buchanan, F. R. Storrrie.
- Lowry, John Wilfred**, B.Sc. (Lond.), A.I.C. British. 82, Fulham Palace Road, Hammer-smith, W. 6. Analytical Chemist and Plant Superintendent.
Signed by : Percy Edgerton, J. C. Crocker, F. H. Lowe.

- Macara, Thomas James Rew**, Ph.D., M.Sc. (Lond.), A.I.C., A.R.C.S. British. 20, Denton Road, London, N. 8. Demonstrator in Chemistry & Biochemistry, St. Thomas's Hospital Medical School.
Signed by : R. H. A. Plimmer, Thos. Macara, L. C. Campbell.
- McCull, Ada Francis**, A.I.C. British. 97, Lochfield Road, Paisley. Chemist.
Signed by : T. S. Stevens, Andrew Kent, John Robertson.
- Macdonald, Ian Ewart**, B.Sc.Hons. (Lond.), A.I.C., A.R.C.S., D.I.C. British. 66, Southwood Lane, Highgate, N. 6. Analytical Chemist.
Signed by : James C. Philip, H. J. T. Ellingham, A. A. Eldridge.
- McLean, Angus**, B.Sc. (Glas.), A.R.T.C., A.I.C. British. 1, Kirktonholme Road, East Kilbride, Glasgow. Chemist and Metallurgist.
Signed by : I. Vance Hopper, F. J. Wilson, G. D. Muir.
- McLean, Thomas**. British. c/o Southern Oil Co., Ltd., Manchester. Works Manager.
Signed by : A. E. Williams, E. H. Rodd, Samuel Coffey.
- MacMurray, Harry Douglas**, B.Sc. (Glas.), A.I.C. British. "Homestead," Lundin Links, Fifeshire. Chemist employed by firm of Chemical Engineers.
Signed by : W. M. Cumming, A. B. Crawford, I. Vance Hopper.
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Signed by : E. H. Rodd, A. Shepherdson, Percy Chorley.
- Manning, John**, B.Sc., Ph.D. (Lond.), F.I.C. British. Astra, Darlington Road, Hartburn, Stockton-on-Tees. Chemist, F. & S.P. (I.C.I.), Ltd.
Signed by : Michael H. M. Arnold, Kenneth C. Warne, Elizabeth D. Johnson.
- Meara, Melville Lear**, B.Sc.Hons., Ph.D. (Bristol), A.I.C. British. 31, Russian Drive, Stoneycroft, Liverpool, 13. Assistant Lecturer in Industrial Chemistry, Liverpool University.
Signed by : T. P. Hilditch, A. McGookin, Wm. Doran.
- Miskin, Frederick Fenby**, F.I.C. British. 6, Meliden Road, Penarth, Glam. Works Manager.
Signed by : J. F. J. Dippy, N. M. Cullinane, Stanley Dixon.
- Nicholson, Benjamin Eric**, B.A., M.Sc. (Dublin), A.I.C. Irish. 18, Eglinton Street, Saltcoats, Ayrshire. Plant Supervision Trainee.
Signed by : Emil A. Werner, Kenneth C. Bailey, A. G. G. Leonard.
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Signed by : H. Ll. Bassett, G. D. Greville, R. Leslie Collett.
- Ogden, Geoffrey**, B.Sc.Hons., M.Sc. (Manc.). British. "Estoril," 24, Framingham Road, Sale, Cheshire. Works General Manager, Manchester Oxide Co.
Signed by : F. S. Spring, J. B. M. Herbert, G. N. Burkhardt.
- Oliver, Harold**, B.Sc. (Lond.), A.I.C. British. 11, Compton Road, Buxton. Chief Chemist and Technical Adviser to a Firebrick Co.
Signed by : F. H. Clews, H. V. Thompson, Harry W. Webb.
- Parry, Edryd Gwylfa**, B.Sc., Ph.D. (Liverpool), A.I.C. British. The Pines, Beechwood Grove, Oatlands, Harrogate. Research Chemist.
Signed by : Frederick M. Rowe, Norman Walker, Arnold T. Peters.
- Pirie, Douglas George**, B.Sc. (Lond.), A.I.C. British. 39A, Gunterstone Road, West Kensington, W. 14. Chemist and Bacteriologist.
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Signed by : Leslie H. Lampitt, E. B. Hughes, G. E. Forstner.
- Pyle, Percival Robert Charles**, A.I.C. English. 4, Winfield Road, Warmley, Bristol. Analytical Chemist.
Signed by : J. Kenyon N. Jones, E. B. Maxted, T. Malkin.
- Race, Joseph**, F.I.C. British. Devonshire Royal Hospital, Buxton, Derbyshire. Biochemist.
Signed by : F. V. Tideswell, H. F. Coward, W. Payman.

Randolph, Charles Edward, B.Sc. (Lond.), A.I.C. British. 21, Wentworth Street, Huddersfield, Yorks. Analytical Chemist.

Signed by : J. J. Fox, I. M. Heilbron, R. Leslie Collett.

Read, Hugh Norman, M.Sc. (Birm.), A.I.C. British.

Signed by : F. W. Pinkard, S. R. Carter, C. R. Porter.

Read, Wilfrid Harry, M.Sc. (Birm.), A.I.C. British. Experimental Station, Cheshunt Herts. Research and advisory chemist. Specialising in insecticides and fungicides.

Signed by : E. J. Russell, F. Tattersfield, J. R. Booer.

Redfarn, Cyril Aubrey, B.Sc., Ph.D. (Liverpool), F.I.C. British. Quality House, Quality Court, Chancery Lane, W.C. 2. Consulting Chemist; Synthetic Resins and Plastics.

Signed by : E. C. C. Baly, Philip Schidrowitz, Thomas McLachlan.

Richardson, George Gary, M.Sc. (Lond.), A.I.C. British. 1, Fairholt Road, Stoke Newington, London, N. 16. Research and technical chemist to the Fur Dyeing Industry.

Signed by : E. de Barry Barnett, R. A. E. Galley, N. F. Goodway.

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Signed by : Hugh B. Nisbet, Robert G. M. Dakers, James Sandilands.

Ritchie, David, A.I.C., M.P.S. British. 439, Gilmerton Road, Gilmerton, Midlothian. Works Chemist.

Signed by : J. J. Blackie, James Sandilands, Robert G. M. Dakers.

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Signed by : Fred. C. Smith, Wm. Wardlaw, J. O. Cutter.

Roberts, Arthur Loten, B.Sc., Ph.D. (Leeds), A.I.C. British. Fuel Department, The University of Leeds. Lecturer in Refractory Materials, Leeds University.

Signed by : Frederick Challenger, H. J. Hodsmen, D. T. A. Townend.

Robertson, Stewart McFeat, A.I.C. Scottish. 95, Kinghorn Drive, Glasgow, S. 4. Chemist.

Signed by : A. B. Crawford, I. Vance Hopper, H. G. A. Anderson.

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Signed by : M. MacCormac, R. H. Griffith, W. A. Voss.

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Signed by : A. G. G. Leonard, A. O'Farrelly, T. J. Nolan.

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Signed by : R. Spence, Norman M. Comber, W. Wild.

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Signed by : J. S. Jennings, Garfield Thomas, H. A. Caulkin.

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Signed by : Frederick M. Rowe, J. W. Baker, H. Burton.

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Signed by : Walter H. Glover, Ernest E. Tallis, C. B. O. Jones.

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- Stansfield, Frank**, B.Sc.Hons. (Manc.), A.I.C. British.
Signed by : Alex. R. Todd, H. T. Openshaw, F. S. Spring.
- Stiekland, Frederick George William**, B.Sc.Hons. (Lond.), A.I.C., A.I.R.I. (Sc.). British. 13, Wellington Avenue, Chingford, E. 4. Analytical Chemist and Research Chemist, Siemens Bros. & Co., Ltd.
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Signed by : F. Bell, J. E. Wynfield Rhodes, S. Tomlinson Jones.
- Stott, Richard Whitefield**, M.A. (Cantab.). British. 2, Southfield, The Crescent, Rugby. Science Master at Rugby School.
Signed by : Hamilton McCombie, S. R. Carter, W. N. Haworth.
- Stuart, John Kenneth**, B.Sc. (Sheffield), A.I.C. English. 2, Havelock Square, Sheffield, 10. Technical Assistant, Ministry of Supply. Normal Occupation—Chemistry Master.
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Signed by : W. H. Mills, F. S. Dainton, R. G. W. Norrish.
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Signed by : Thomas Kennedy Walker, O. Rhys Howell, John K. Wood, William Bradley.
- Swanson, Basil Ward**, A.I.C. English. 13, Marden Terrace, Cullercoats, Whitley Bay, Northumberland. Analytical Chemist to a firm of Consulting Chemists.
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Signed by : A. E. Findley, R. R. Butler, F. Robertson Dodd, A. P. Telford.
- Tompsett, Sidney Lionel, B.Sc.** (Lond.), Ph.D. (Glas.), D.Sc. (Glas.), F.I.C. British. 92, Dorian Drive, Clarkston, Renfrewshire. Biochemist; Royal Infirmary, Glasgow, Lecturer in Biochemical Analysis; Royal Technical College, Glasgow.
Signed by : T. S. Stevens, Andrew Kent, Charles Buchanan.
- Tracey, George, A.I.C.** British. 6, Eagle Street, Blackburn. Chemist in charge of Chemical Laboratory of a Tyre and Rubber Co.
Signed by : F. Bell, J. E. Wynfield Rhodes, G. N. Burkhardt.
- Turner, Frank, A.I.C.** British. 26, Earlshall Road, Eltham, S.E. 9. Chief Chemist.
Signed by : Horatio Ballantyne, F. Montague Dyke, A. D. Scott.
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- Ward, Robert, B.Sc.** (Lond.), F.I.C. British. Hillside, Stainton, Middlesbrough, N. Yorks. Chemist—Heavy Chemical Industry.
Signed by : M. P. Applebey, Michael H. M. Arnold, J. G. M. Bremner, Elizabeth D. Johnson.
- Watson, Charles, B.Sc.** (Glas.), A.R.T.C., A.I.C. British. Chemist.
Signed by : Henry G. A. Anderson, A. B. Crawford, I. Vance Hopper.
- Webster, Charles Thomas, A.I.C.** British. 127, Penrose Avenue, Carpenders Park, Watford, Herts. Chemist, Building Research Station.
Signed by : James C. Philip, H. J. T. Ellingham, A. A. Eldridge.
- Welton, Winifred E., B.Sc.** (Lond.), A.I.C. British. 44, Mount Nod Road, Streatham, S.W. 16. Chemist.
Signed by : Harold Raistrick, E. B. Anderson, R. Leslie Collett.
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Signed by : C. H. Desch, F. P. Dunn, R. Leslie Collett.
- *Whittingham, Gordon, B.A.Hons.** (Cantab.). British. "Sunrays," Ambergate, Derbyshire. Research Student at Cambridge.
Signed by : F. S. Dainton, C. H. Bamford, J. H. Schulman.
- Wilkinson, Rowland, M.Sc., Ph.D.** (Manc.), A.I.C. British. Langley Road, Watford. Research Chemist.
Signed by : G. N. Burkhardt, A. E. Gillam, Colin Campbell.
- Wood, Baruch Harold, B.Sc.Hons.** (Wales), M.Sc. (Birm.). British. 146, Rectory Road, Sutton Coldfield, nr. Birmingham. Research Chemist.
Signed by : E. G. V. Percival, M. Stacey, C. S. Kipping, F. Smith.
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Signed by : W. B. Price, M. N. Leathwood, R. A. Sutton.
- Yeates, Reginald Leslie, M.Sc.** (Lond.), A.I.C. English. 1143, Warwick Road, Solihull, Birmingham. Production Manager, Synthetic Resin and Phthalic Anhydride plants.
Signed by : J. W. Cook, E. de Barry Barnett, Henry J. S. Sand.
- Young, Charles Harold, B.Sc.** (Lond.). British. 29, Winchendon Road, Teddington, Middlesex. Research Chemist.
Signed by : D. R. Duncan, J. O. Cutter, S. H. Bell.

UNDER SPECIAL PROVISION APPERTAINING TO APPLICANTS RESIDENT ABROAD :

Hanmer, Hiram Rupert, B.S. (Vermont). American. The American Tobacco Company, P.O. Box 4178, Richmond, Virginia, U.S.A. Director of Research.

Signed by : E. C. L. Miller, Foster Dee Snell.

McHaffie, Ivan Roy, B.A., M.Sc. (Manitoba), D.Sc. (Lond.). Canadian. c/o Canadian Industries, Ltd., P.O. Box 10, Montreal, P.Q., Canada. Manager, Research & Development Dept., Canadian Industries, Ltd.

Signed by : C. H. Robinson, E. W. R. Steacie.

Singh, Raghbir, B.Sc. (Punjab), M.Sc. (Lucknow). Indian (Sikh). The Patiala Cement Co., Ltd., Surajpur, N.W.Rly., Punjab, India. Assistant Chemist to The Associated Cement Companies, Ltd., India.

Signed by : J. N. Ray.

Wolf, Arnold, Ph.D. (Frankfurt). German. 29, Stafford Road, Ellesmere Park, Eccles, Lancs. Technical Director, Victor Wolf, Ltd., Manchester II.

Signed by : Thos. H. Durrans.

* Reduced Annual Subscriptions.

PAPERS RECEIVED

List of papers received between April 24th and May 25th, 1941. (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 polarimetric study of intramolecular rearrangement in inactive substances. Part VIII. α - and β -Furfuraldoximes and some others." By T. S. PATTERSON, CHARLES BUCHANAN, and ALEXANDER J. SUMMERS.

"Acridine syntheses and reactions. Part II. Synthesis of proflavine from *m*-phenylenediamine and its derivatives (*continued*)." By A. ALBERT.

"The action of organo-alkali compounds on benzonitrile." By R. M. ANKER and A. H. COOK.

"Sapogenins. Part XI. Further evidence on the constitution of quillaic and oleanolic acids." By P. BILHAM and G. A. R. KON.

"Optically active tetrahydrofurfuryl-2-carbinol." By M. P. BALFE, M. IRWIN, and J. KENYON.

"The alkaloids of Bulgarian belladonna root." By H. KING and L. L. WARE.

" α -Aceto-*N*-methylpyrrolidine." By H. KING.

"Furanose and pyranose derivatives of glucurone." By L. N. OWEN, S. PEAT, and (in part) W. J. G. JONES.

"Some acyl derivatives of iodine." By J. W. H. OLDHAM and A. R. UBBELOHDE.

"Action of alkaline-earth chlorides on emulsions stabilised by sodium oleate." By A. H. ADAMS and A. R. MARTIN.

"*p*-Aldehydophenyltrimethylammonium salts and their condensation and decomposition products." By A. ZAKI and W. TADROS.

"Triterpene resinols and related acids. Part XIII. Note on the bromination of α -amyr-anonyl benzoate and β -amyr-anonyl acetate." By D. E. SEYMOUR and F. S. SPRING.

"2 : 3-Methylenedioxychrysene." By L. H. BRIGGS and J. M. WILSON.

"Benzocyclooctatetraenes. Part I." By W. S. RAPSON and R. G. SHUTTLEWORTH.

"The conversion of 6-chloro-3-benzoyloxy- Δ^4 -cholestene into Δ^4 : Δ^6 -cholestadienyl benzoate." By F. S. SPRING and G. SWAIN.

"The preparation of diarylmaleonitriles." By A. H. COOK, J. DOWNER, and B. HORNING.

"Derivatives of monosilane. Part II. The iodo-compounds." By H. J. EMELÉUS, A. G. MADDOCK, and C. REID.

"Addition of $\beta\gamma$ -unsaturated alcohols to the active methylene group. Part III. Scope and mechanism of the reaction." By M. F. CARROLL.

- "Experiments on the synthesis of substances related to the sterols. Part XXVIII." By Sir ROBERT ROBINSON and S. N. SLATER.
- "The absorption spectra of the phenylpyridines and pyridyldiphenyls." By A. E. GILLAM, D. H. HEY, and A. LAMBERT.
- "Studies in the sterol group. Part XLIII. The unsaponifiable portion of the acetone extract of plantation rubber." By I. M. HEILBRON, E. R. H. JONES, K. C. ROBERTS, and P. A. WILKINSON.
- "Derivatives of naphthoylbenzoic acid and naphthylphenylmethane-2-carboxylic acid." By G. M. BADGER.
- "Bond lengths and resonance in the *cis*-azobenzene molecule." By G. C. HAMPSON and J. MONTEATH ROBERTSON.
- "The halogenation of phenolic ethers and anilides. Part XI. Substituted benzyl ethers of some alkylphenols." By BRYNMOR JONES.
- "The internal phase and emulsifier as factors determining the viscosity of oil-in-water emulsions." By B. A. TOMS.

ADDITIONS TO THE LIBRARY.

I. *Donations.*

BERNTHSEN, A. A textbook of organic chemistry. Revised by J. J. SUDBOROUGH. New edition. London 1941. pp. xii + 1371. 17s. 6d. net. (*Recd.* 15/5/41.)

From the Publishers: Messrs. Blackie & Son. ORGANIC SYNTHESSES. Vol. XVIII. New York 1938. pp. vi + 103. (*For circulation.*)

From Dr. H. Toms.

II. *By Purchase.*

CONN, H. J. Biological stains. 4th edi-

tion. Geneva, N.Y. 1940. pp. 308. ill. \$3.40. (*Recd.* 28/4/41.)

NATIONAL FIRE PROTECTION ASSOCIATION. National fire codes for the prevention of dust explosions. Boston, Mass. 1940. pp. 135. ill. 75c. (*Recd.* 25/4/41.)

SEIDELL, ATHERTON. Solubilities of inorganic and metal organic compounds. 3rd edition. Vol. I. New York 1940. pp. iv + 1698. (*Reference.*) \$12.

PROCEEDINGS

OF THE

CHEMICAL SOCIETY.

MEETINGS OUTSIDE LONDON.

LECTURE AT BRISTOL, JUNE 5th.

A Joint Meeting of the Chemical Society with the Local Sections of the Society of Chemical Industry and of the Institute of Chemistry was held in the Department of Chemistry, The University, Bristol, on June 5th, when a lecture-demonstration on "Liquid Crystals" was given by Professor G. M. Bennett. The chair was taken by Dr. E. B. Maxted; and a vote of thanks to the lecturer, proposed and seconded, respectively, by Professor E. L. Hirst and Dr. F. W. Rixon, was carried unanimously.

LECTURE AT LIVERPOOL, MAY 1st.

On Thursday, May 1st, 1941, Dr. F. J. Brislee delivered a lecture before the Liverpool Section of the Chemical Society and the Liverpool University Chemical Society at the University.

Dr. Brislee defined research as "work done for the discovery of truth and extension of knowledge, that is fundamentals," and said that the term was too frequently used to cover less dignified work. As an example of a fundamental industrial research, Dr. Brislee described the methods of wire-drawing by passing heated copper bars through three series of rollers, resulting in $\frac{1}{4}$ inch copper rod, which is then drawn through dies to the desired diameter of the wire. Trouble arose through breaks in the wire during drawing, and, on examination, these breaks were found to include a metal shown to be iron or steel by its emission spectrum. The lecturer emphasised the great value of the spectrograph in industrial investigations.

The source of these steel fragments was finally traced to the "roughing" or first rollers, since traces of molybdenum were present. The fault was reduced but not eliminated by working the rollers less severely and cleaning their surfaces frequently.

Dr. Brislee then turned to the problem of suitable dielectrics, pointing out that its attack by ozone, oil, heat, etc., rendered rubber a faulty dielectric for cable manufacture. He described and showed sections of paper-insulated, oil-filled, lead-covered cables capable of being used up to very high voltages. The lecturer stressed the very large amount of research which the development of this method of insulation has entailed.

He next turned to the resins formed by the polymerisation of organic compounds. The earlier plastics had good dielectric but inferior mechanical properties. The more modern substances such as polyethylene (molecular weight 15,000—30,000) appear to be more suitable.

An interesting problem connected with polymerisation arose when an experimental cable, after two years' use, was found to contain solid matter in place of the original thin oil. This solid closely resembled a brown stain often noticed in old condensers but never previously obtained in quantity. After solvent treatment of the brownish solid a pale yellow powder remained, which, after many unsuccessful attempts at combustion, proved to be a hydrocarbon $(CH_2)_n$. The molecular weight could not be ascertained by the Staudinger viscometer method, since the polymer was insoluble in all solvents. Its X-ray spectrum revealed its analogy to polyethylene, thus confirming the deduction made from combustion results.

Films of oil spread on a glass surface were exposed to electrical discharges *in vacuo*, when a white, solid material appeared, which rapidly turned yellow or brown with increase of temperature, and was shown to be identical with the solid obtained from the cable. Since this material had not failed in the cable, it evidently possessed good electrical properties, but it has not yet been plasticised.

Polymerisation affords the most fertile field for investigation.

**Minutes of a
SCIENTIFIC MEETING**

**held in the Large Lecture Room, Department of Biochemistry, The University Museum,
Oxford, on Thursday, May 30th, 1941, at 2.30 p.m.**

The President, Professor J. C. PHILIP, O.B.E., D.Sc., F.R.S., was in the Chair, and welcomed the visitors present.

The minutes of the Scientific Meeting of May 15th, 1941, were read, and were confirmed and signed.

FORMAL ADMISSION OF FELLOWS.

The following were formally admitted Fellows of the Chemical Society: Clifford Brown, S. G. Waley, D. V. Crawford, Peter H. Given, G. G. Freeman, S. W. Hawkins, R. H. Harradence, Alec B. Jansen, and Gertrude M. Robinson.

SEVENTH PEDLER LECTURE.

After a brief introduction, the PRESIDENT called on Professor W. N. Haworth to deliver his Pedler Lecture, entitled "Recent Developments in the Chemistry of Carbohydrates."

A vote of thanks to the Lecturer, proposed by Sir Robert Robinson, seconded by Professor R. A. Peters, and supported by the President, was carried with acclamation.

The PRESIDENT expressed the thanks of the Society to the University Authorities and to Professor Peters for the use of the Lecture Room.

**Minutes of a
SCIENTIFIC MEETING**

held at Burlington House, London, W. 1, on Thursday, June 19th, at 4.15 p.m.

The President, Professor J. C. PHILIP, O.B.E., D.Sc., F.R.S., was in the Chair, and welcomed the visitors present.

The minutes of the Scientific Meeting of May 30th, 1941, were read, and were confirmed and signed.

FORMAL ADMISSION OF FELLOWS.

The following were formally admitted Fellows of the Chemical Society: Peter V. Danckwerts, Bernard Beilenson, Cyril A. Kloss, H. S. Peiser, Neil Palmer, R. L. Edwards, James E. Page, R. H. M. Savage, R. J. Meakins, E. M. Pam, A. Lambert, H. Coates, E. S. F. Rogans, K. J. Hayden, E. Lester Smith, P. Alexander, H. J. Strausz, G. D. Gillies, J. D. Kidd, C. E. Stickings, and R. W. Sutton.

TILDEN LECTURE.

After a brief introduction, the PRESIDENT called on Professor A. R. Todd to deliver his Tilden Lecture, entitled "Vitamins of the B Group."

A vote of thanks to the Lecturer, proposed by Dr. Francis H. Carr, seconded by Professor I. M. Heilbron, and supported by the President, was carried with acclamation.

OFFICIAL ANNOUNCEMENTS**CONGRATULATIONS.**

The congratulations of the Society have been conveyed to Mr. Oliver Trigger, who completed 60 years of Fellowship on June 16th, and to Dr. J. F. Tocher, who completed 50 years of Fellowship on May 7th.

DEATHS.

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

	Elected.	Died.
Matthew Hunter	1885	May 18th
Charles W. Hyland	1938	January 16th
Sir William F. Wyley	1884	August 11th, 1940

CONTRIBUTIONS.

The thanks of the Council have been conveyed to Sir David Rivett and Mr. F. C. Smith for contributions to the Publications Fund.

TRAVELLING EXPENSES OF MEMBERS OF COUNCIL.

The question of making payments towards the travelling expenses of Members of Council attending Council Meetings has frequently been under consideration, but hitherto the Council have not felt justified in allocating any part of the Funds of the Society to such a purpose.

In view of the fact, however, that it is the practice of the other Chartered Chemical Bodies to meet such expenses the Council felt it necessary to reconsider the question and they have decided that in future every Member of Council, if living more than 50 miles from the place of the Council Meeting, shall be entitled to claim an amount not exceeding the third class return fare from his place of residence to the place of the Council Meeting. If he is unable to complete the double journey in one day, he shall also be entitled to make an additional claim up to an amount not exceeding the difference between the third and first class return fares from his place of residence to the place of the Council Meeting.

LIBRARY.

The Library will be entirely closed for cleaning and stocktaking from Monday, August 4th, to Saturday, August 9th, inclusive.

The usual recall of books will, however, not take place.

FELLOWSHIP.

5 Fellows have been reinstated, the resignations of 18 have been accepted, the names of 4 have been removed from the List of Fellows under the action of Bye-Law 15, and the following 171 candidates were elected Fellows on June 19th :

Gordon Henry Abbott.	Samuel Walter Butterworth.
John Pratt Allchin.	Landon Francis Byrne.
Theodore Edward Archard.	John Reid Campbell.
Edgar Arundel.	Basil Houghton Chorley.
Frank Baldry.	George Charles Harry Clark.
Robert Roy Baldwin.	Abraham Colin-Russ.
Michael Barash.	Walter Charles Coppins.
Harold Frederick Barke.	Joe Harrop Coucill.
George Barnett.	Robert Craig.
Lionel Fitzgerald Barron.	Arthur John Crockatt.
William Bennett.	Frank Cropper.
Edwin John Bills.	Eric Arthur Crouch Crouch.
William Walter Bills.	Charles Dagnall.
Albert Edward Bishop.	David Richard Aylmer Davies.
Sydney Roskrige Bowden.	Philip Morey Davies.
Arnold Breare.	Joan Davis.
Charles Isaac Brodrick.	Stephen Barton Davis.
William Stanger Bryan.	William Douglas Dick.
Frederick William Bush.	Allan Maclean Drummond.

*

James Bothwell Duncan.
 Edward Foster Eaton.
 Homi Eduljee Eduljee.
 Gerald Harry Edwards.
 Harry Leonard Evans.
 John Ferguson.
 Geoffrey Garratt Fisher.
 Thomas Fitzpatrick.
 Walter Percy Ford.
 Hugh Cameron Freeman.
 Charles Hubert Francis Fuller.
 Derrick Fysh.
 Leonard Gowen Gabriel.
 Samuel Gabriel.
 Alban James Gait.
 Donald Clarence Garratt.
 George Denholm Gillies.
 Wilfred Gillison.
 Joseph Gordon.
 Arnold Trevor Green.
 Raymond George Green.
 John Goodland Gregory.
 Harry Noel Griffiths.
 Norman Reginald Hall.
 Cyril Garforth Hampson.
 Hiram Rupert Hanmer.
 Andrew Thomas Stewart Hare.
 Thomas Harrington.
 John Holley Harwood.
 Henry William John Hathaway.
 Lionel Alan Walter Hayward.
 Robert Heap.
 Horace James Hegan.
 Vernon Frederick Frank Henley.
 Hector Whittingham Hibbott.
 Walter George Hiscock.
 Leslie Ernest Hockin.
 Wilfrid Henry Hogg.
 Sidney John Hopkins.
 Eric Hoult.
 Bertram James Frank Hudson.
 Anthony Humphreys.
 David Leonard Charles Jackson.
 Ernest Norman Johnson.
 Victor George Jolly.
 Leslie Jones.
 John Arthur Kemp.
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 Alfred Joseph Kieran.
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 Angus McLean.
 Thomas McLean.
 Harry Douglas MacMurray.
 Alan Mulock Maiden.
 John Manning.
 Melville Lear Meara.
 Frederick Fenby Miskin.
 Benjamin Eric Nicholson.
 Isaac Norvick.
 Geoffrey Ogden.
 Harold Oliver.
 Edryd Gwylfa Parry.
 Douglas George Pirie.
 Raymond John Michael Pollitt.
 Percival Robert Charles Pyle.
 Joseph Race.
 Charles Edward Randolph.
 Hugh Norman Read.
 Wilfrid Harry Read.
 Cyril Aubrey Redfarn.
 George Gary Richardson.
 John Samuel Risbey.
 David Ritchie.
 Edwin Cecil Roberson.
 Arthur Loten Roberts.
 Stewart McFeat Robertson.
 Sydney John Rogers.
 John Joseph Scanlan.
 Dan Scott.
 Frank Sealey.
 William Gawan Sewell.
 Edwin Holroyd Sharples.
 Raghbir Singh.
 Arthur Henry Soane.
 Percy Frederick Combe Sowter.
 Harold Edgar Stagg.
 Frank Stansfield.
 Frederick George William Stickland.
 Thomas Stones.
 Richard Whitefield Stott.
 John Kenneth Stuart.
 Thomas Stutchbury.
 Theodore Morris Sugden.
 Arthur James Suthers.
 Basil Ward Swanson.
 John Langhorne Sweeten.
 James Sword.
 John Leslie Taylor.
 Richard Spenser Thomas.
 Gordon Vallins Elliot Thompson.
 Hubert Morris Thompson.
 Philip Frederick Timson.
 James Todd.
 Sidney Lionel Tompsett.
 George Tracey.
 Frank Turner.
 George William Usherwood.
 William Basil Walker.
 William Bernard Walker.
 Robert Ward.
 Charles Watson.
 Charles Thomas Webster.
 Winifred E. Welton.
 Edward Wharton.
 Gordon Whittingham.
 Rowland Wilkinson.
 Arnold Wolf.
 Baruch Harold Wood.
 Leslie Woods.
 Reginald Leslie Yeates.
 Charles Harold Young.

COMMITTEES.

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 1941-1942 :

Finance and General Purposes Committee.

A. E. Dunstan, H. J. T. Ellingham, G. I. Finch, I. M. Heilbron, C. N. Hinshelwood, R. G. W. Norrish, Sir Robert Pickard, R. E. Slade, 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.

S. Sugden as Chairman, A. J. Allmand, W. Baker, R. P. Bell, F. P. Bowden, H. V. A. Briscoe, F. Challenger, G. R. Clemo, W. E. Garner, C. F. Goodeve, J. M. Gulland, G. S. Hartley, R. D. Haworth, I. M. Heilbron, T. A. Henry, D. H. Hey, E. D. Hughes, H. W. Melville, W. H. Mills, R. A. Morton, J. R. Partington, A. Robertson, J. M. Robertson, R. Robison, N. V. Sidgwick, H. Terrey, A. R. Todd, together with the Officers, and the Editor as Secretary.

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J. W. Cook, W. E. Garner, I. M. Heilbron, C. N. Hinshelwood, H. McCombie, J. Kenyon, Sir Robert Robinson, J. L. Simonsen, S. Sugden, together with the Officers. The President as Chairman, and the General Secretary as Secretary.

Publications Exchange Committee.

A. C. G. Egerton, H. J. Emel us, T. A. Henry, E. E. Turner, with T. A. Henry (ex-officio representative of the Joint Library Committee on the Council) and the Officers, with the Librarian as Secretary.

LIST OF APPLICATIONS FOR FELLOWSHIP

(Fellows wishing to lodge objections to the election of any of these candidates should communicate with the Honorary Secretaries not later than Monday, 14th July. Such objections will be treated as confidential. The forms of application are displayed in the Library.)

Allan, William Taylor. Certificates of the Royal Glasgow Technical College in Chemistry, Metallurgy, and allied subjects. British. Caldside House, Shotts. Chief Chemist.

Signed by : Francis G. Cousins, R. T. Thomson, J. A. Macnair.

Allen, Ronald Lewis, B.Sc.Hons. (Lond.), A.I.C. British. 116, Fabian Crescent, Shirley, nr. Birmingham. Captain, R.A.O.C.

Signed by : J. Cooper Duff, J. Newton Friend, R. H. Vallance.

Aps, John Edmund, F.I.C. British. 47, Woodland Way, Petts Wood. Chief Chemist to the Union Cold Storage Co., Ltd.

Signed by : J. J. Fox, R. Leslie Collett, B. A. Ellis.

Backshell, Arthur Price, A.I.C. British. 12, The Oval, Garden Village, Hull, Process Superintendent.

Signed by : M. A. T. Rogers, E. Isaacs, H. Langwell.

Barkla, Donald Greatbatch, B.Sc. (L'pool). British. Mithian, Aintree Lane, Aintree, Liverpool, 9. Resident Chemist and Chief of Chemical Laboratories.

Signed by : F. Robertson Dodd, Alfred P. Telford, James Smith.

Binns, Caleb, B.Sc. (Lond.), A.I.C. British. Park Lane, Greenfield, Nr. Oldham. Chemist to a Paper Mill.

Signed by : J. J. Fox, Francis H. Carr, R. Leslie Collett.

- Blakeley, Thomas Hedley**, B.Sc., Ph.D. (Leeds), A.I.C. British. Grendon, Moorgate, Rotherham. Assistant to Works Manager of Chemical Works.
Signed by : G. A. Hebden, H. J. Hodson, D. T. A. Townend.
- Blomfield, Joan Elizabeth**, M.A., B.Litt. (Oxon.). British. Somerville College, Oxford. Acting Librarian.
Signed by : F. M. Brewer, Rita H. Harradence, D. M. Hodgkin.
- Bradford, Enid Agnes Margaret**, B.Sc. (Lond.), A.I.C. British. 34, St. Michael's Crescent, Pinner. Research Chemist to The Marmite Food Extract Company, Ltd.
Signed by : J. J. Fox, R. Leslie Collett, B. A. Ellis.
- Bullough, William**, B.Sc.Hons. (Lond.), A.I.C. British. 82, Newton Rd., Lowton-St.-Mary's, Warrington. Analytical Chemist.
Signed by : Ernest B. Naylor, T. J. Morrison, A. Cooksey.
- Carter, William James**, A.I.C. British. 18, Branscombe Road, Stoke Bishop, Bristol, 9. Research Chemist.
Signed by : C. E. H. Bawn, E. B. Maxted, G. M. Bennett, J. K. N. Jones.
- Chambers, William Thomas**, Ph.D. (Birm.), A.I.C. British. 74, Tewin Road, Welwyn Garden City. Analyst to a Research Association.
Signed by : E. H. Farmer, F. Smith, M. Stacey, K. C. Roberts, Stanley Peat.
- Chapman, Kenneth Thomas**, B.Sc. (Lond.), A.I.C. British. Ardeen, 35, Higher Road, Hunts Cross, nr. Liverpool. Technical Manager of a firm of Manufacturing Chemists.
Signed by : Harold W. Jones, Thomas Backhouse, Francis W. Kay.
- Clifford, Joseph**, A.R.C.Sc.I., F.I.C. English. 5, Arlington Avenue, South Shore, Blackpool. Analytical and Consulting Chemist.
Signed by : Charles S. Gibson, W. B. Pollard, R. Leslie Collett.
- Crosse, Frederick George**, F.I.C. English. 8, Ederline Avenue, Norbury, S.W. 16. Assistant Editor, The Bureau of Chemical Abstracts.
Signed by : James C. Philip, A. A. Eldridge, G. A. R. Kon.
- Curran, Michael Joseph**, B.Sc. (Lond.), A.I.C., British. 21, Pound Park Road, Charlton, S.E. 7. Works Chemist.
Signed by : J. J. Fox, R. Leslie Collett, B. A. Ellis.
- Dee, Thomas Pride**, B.Sc.Hons. (Lond.), F.I.C., A.M.I.Chem.E. British. Bon Accord, Broughton, Brigg. Chemist.
Signed by : J. J. Fox, R. Leslie Collett, B. A. Ellis.
- Dow, William Thornton**, A.H.W.C., A.I.C. British. 31, Mount Vernon Road, Liberton, Edinburgh. Advisory Research Chemist (Bakery products).
Signed by : James Sandilands, Hugh B. Nisbet, Robert G. M. Dakers.
- Edmondson, Albert Norman**, A.I.C. British. 7, Hala Grove, Scotforth, Lancaster. Research Chemist.
Signed by : Ernest Taylor, R. Leslie Collett, J. J. Fox.
- Farina, Philip Edward Lodovico**, B.Sc. (Lond.), A.I.C. British. 168, Algernon Road, Lewisham, S.E. 13. Works Analyst.
Signed by : E. B. Evans, N. F. Goodway, R. A. E. Galley.
- Ford, Alexander Langridge**, B.Sc. (Lond.). British. 33, Elmwood Ave., Hoole, Chester. Chemist to an Oil Company.
Signed by : J. H. Putman, J. R. Partington, E. D. Griffiths.
- Foster, John**, B.Sc.Hons. (Lond.), Diploma in Chem. Eng., A.I.C., F. Canadian Inst. Chem. British. Grand Falls, Newfoundland. Sulphite Superintendent, Anglo Newfoundland Development Co., Ltd.
Signed by : R. Leslie Collett, J. J. Fox, B. A. Ellis.
- Gray, William**, B.Sc.Hons. (Glas.). British. 13, Patrick Avenue, Stevenston. Works Chemist.
Signed by : T. S. Stevens, F. R. Storrie, Charles Buchanan.
- Harding, Gilbert**, F.I.C., A.M.C.T. British. 15, Moseley Avenue, Coventry. Works Chemist.
Signed by : A. R. Runeckles, W. H. Glover, H. Paul.

- Harris, Clifford**, A.I.C. British. 32, Park Road, Keynsham, nr. Bristol. Research Chemist.
Signed by : Arthur Marsden, J. Kenyon N. Jones, L. A. Wiseman.
- Hillman, Herbert Colston**, B.Sc. (Bristol), A.I.C. British. Shilla, Briar Way, Guildford. Chemist, Messrs. Cow & Gate, Ltd.
Signed by : F. Francis, N. Stuart, T. Malkin.
- Hutchison, George Lewis**, B.Sc. (Lond.), F.I.C. British. 3, Cwmdonkin Terrace, Uplands, Swansea. Research Chemist.
Signed by : Robert Robertson, F. G. Willson, J. E. Coates, A. Brewin.
- Kaye, Maurice Arthur George**, J.M.B. Higher School Certificate in Mathematics, Physics and Chemistry. British. 17, Raleigh Road, Stoke, Coventry. Assistant Chemist in Research Work.
Signed by : Walter H. Glover, H. Paul, H. J. Hegan.
- Kerr, Douglas Graham**, B.Sc.Hons. (Edin.), A.I.C. British. 16, Hill Street, Edinburgh, 2. Technical Assistant.
Signed by : James Kendall, Neil Campbell, T. R. Bolam.
- King, Leslie Walter**, A.I.C. British. 1, Warren Road, Wanstead, E. 11. Manufacturing Chemist.
Signed by : J. J. Fox, B. A. Ellis, R. Leslie Collett.
- Kramers, William Julian**, B.A., B.Sc. (Oxon.). British. 53, Lancaster Grove, N.W. 3. Advanced Student.
Signed by : D. L. Chapman, J. C. Smith, L. A. Stocken.
- Lockwood, Arthur Ronald**, B.Sc.Hons. (B'ham.), A.I.C. British. 31, Founerean Road, Ipswich. Chemist to a Chemical Works.
Signed by : R. L. Edwards, R. H. Hopkins, Stanley Peat.
- Louden, Charles Robertson**, B.Sc. (Glas.), F.I.C. British. 44, de Villiers Avenue, Gt. Crosby, Liverpool, 23. Chemist.
Signed by : W. Ramsay Sibbald, F. Robertson Dodd, Alfred P. Telford.
- McDougall, Edward Ian**, B.Sc. (Lond.), A.I.C. British. c/o Institute of Animal Pathology, Milton Road, Cambridge. Research Chemist.
Signed by : H. D. K. Drew, D. C. Jones, W. H. Patterson.
- Macfarlane, Harold Colin**, A.I.C., A.R.T.C. (Salford), British. 142, Swinton Park Road, Pendleton, Salford, 6. Analytical Chemist.
Signed by : W. T. H. Williamson, G. N. Burkhardt, Alex. R. Todd.
- Merrill, Ian Nuttall**, A.M.I.Chem.E. British. 16, King Egbert Road, Totley Rise, Sheffield. Managing Director.
Signed by : Kenneth W. Francombe, Arthur W. Chapman, W. D. Scouller.
- Miller, John Garnet Frederick**, B.Sc., Ph.D. (Lond.), A.I.C. British. 58, Parkstone Road, Poole. Temporary Chemist.
Signed by : T. C. J. Ovenston, Frank W. Stoyly, R. C. Pitkethly.
- Milne, James**, B.Sc. (Glas.), A.R.T.C., A.I.C. British. 11, Irongray Street, Glasgow, E. 1. Chemist.
Signed by : F. J. Wilson, A. B. Crawford, G. D. Muir.
- Minors, Charles Arthur**, B.Sc. (Lond.). British. 73, Marchmont Road, Wallington. Chemical Engineer.
Signed by : Henry Terrey, E. D. Hughes, C. K. Ingold.
- Monk, Harold Edward**, B.Sc. (L'pool.), F.I.C. British. County Laboratory, County Buildings, Worcester. Public Analyst.
Signed by : Cecil Cooke Duncan, J. J. Fox, R. Leslie Collett.
- Munro, Reginald James**, B.Sc., A.R.T.C. (Glas.), F.I.C. British. 2, Wellington Road, Bebington. Research Chemist.
Signed by : R. F. Hunter, A. D. Scott, W. J. G. Jones.
- Murray, Wilfred**, A.M.C.T., A.I.C. British. c/o Walker, Ryecroft Farm, Croxteth Hall Lane, Liverpool, 11. Analytical and Research Chemist.
Signed by : J. Haslam, James S. Merry, R. Leslie Collett.

Olliver, Mamie, M.Sc. (Lond.), F.I.C. British. 22, Leys Avenue, Cambridge. Assistant Chief Chemist.

Signed by : W. H. Mills, F. S. Dainton, R. G. W. Norrish.

Perkins, Frederick, B.Sc. (Lond.), A.I.C. English. 2, Wayside Avenue, Harrogate. Works Chemist.

Signed by : T. A. Cullum, J. J. Fox, R. Leslie Collett.

Ragg, Leonard William, Pharmaceutical Chemist, University of London, A.I.C. British. 7, New Close, Knebworth. Analytical Chemist to a firm of Chemical Manufacturers.

Signed by : H. M. Perry, T. F. West, R. Leslie Collett.

Raine, Thomas, B.Met., Ph.D. (Sheffield), A.I.C. British. 7, Mayfair Drive, Sale, Manchester. Metallurgical Physicist.

Signed by : G. M. Bennett, R. Leslie Collett, J. J. Fox.

Rees, Walter James, D.Sc.Tech. (Sheffield), F.I.C. British. 47, Stumperlowe Crescent Road, Fulwood, Sheffield, 10. Lecturer in Refractory Materials, University of Sheffield.

Signed by : J. I. O. Masson, R. D. Haworth, Arthur W. Chapman.

Reidy, John William, A.I.C., A.T.I. British. 30, Woodstock Drive, Worsley, Manchester. District Manager and Technical Representative to a firm of Chemical Manufacturers.

Signed by : John K. Wood, A. Whitehead, J. E. Myers.

Roberts, Charles Fletcher, A.M.C.T., F.I.C. British. 23, Lovely Lane, Warrington. Research Chemist.

Signed by : T. P. Hilditch, R. A. Morton, A. E. Findley.

Roberts, Muriel, B.Sc. (L'pool.), F.I.C. British. 1, Sefton Drive, Liverpool, 8. Public Analyst.

Signed by : W. Gordon Carey, E. B. Hughes, T. P. Hilditch, John Evans, S. E. Melling.

Salkield, Leonard Unthank, Assoc.R.S.M., Assoc.M.Inst.Chem.E. British. Port Tenant, Swansea. Superintendent of Works.

Signed by : G. E. Coates, J. E. Coates, E. E. Ayling, L. E. Hinkel.

Sergeant, Stanley Victor, B.Sc. (Lond.), A.I.C. British. Heath Holme, Heathlands Road, Little Sutton, Wirral. Works Chemist.

Signed by : H. Ainsworth Harrison, E. de Barry Barnett, R. Leslie Collett.

Sewell, Eric James, Higher School Certificate in Chemistry, Physics, and Biology. British. 8, Elmwood Avenue, Coundon, Coventry. Assistant Research Chemist.

Signed by : H. Paul, Walter H. Glover, H. J. Hegan.

Sleigh, Sydney William, A.I.C. British. Woodlands, Mancetter, Atherstone. Chemist to a Colliery Company.

Signed by : J. Newton Friend, J. Cooper Duff, R. H. Vallance.

Stickland, Oliver Ward, B.Sc. (Lond. and Bristol), F.I.C. British. Tanok, West Kilbride. Technical Chemist.

Signed by : J. Weir, A. G. White, J. D. Miles.

Stokoe, William Norman, Ph.D., B.Sc. (Lond.), F.I.C., F.R.S.E. British. 8, Lobden Road, Edinburgh, 9. Technical Director.

Signed by : James Sandilands, R. G. M. Dakers, Hugh B. Nisbet.

Topp, Norman Eric, Ph.D. (Lond.). British. Harpenden, Herts. Research Assistant.

Signed by : J. Kenyon, M. P. Balfe, R. Faraday Innes.

Urie, Alexander, B.Sc., Ph.D. (Glas.), A.R.T.C., A.I.C. British. 30, Jedburgh Avenue, Rutherglen, Glasgow. Analytical and Research Chemist.

Signed by : F. J. Wilson, A. B. Crawford, E. B. Hughes, J. J. Fox.

Warner, Kenneth Sidney, A.I.C. British. 50, Arundel Avenue, Morden. Technical Chemist.

Signed by : John T. Stock, E. de Barry Barnett, R. Leslie Collett.

Wright, James Macer, B.Sc.Hons. (Lond.), Student Member of Institute of Chemistry. British. 23, Hever Road, Edenbridge. Clerk, M.W.B.

Signed by : F. J. Llewellyn, D. J. G. Ives, F. Barrow, Stuart M. Phillips.

Yuill, John Lewis, B.Sc. (Lond.), Member of Biochemical Society (since 1932), Soc. Chem. Ind. (since 1919). British. 26, Hawthorn Terrace, New Earswick, York. Chief Chemist to a firm of Chemical Manufacturers.

Signed by : Harold B. Brown, B. G. McLellan, G. M. Bennett.

PAPERS RECEIVED

List of papers received between May 25th and June 19th, 1941. (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 hydrated nitrates of rare-earth elements." By J. K. MARSH.
- "Oxalates of some rare-earth elements." By J. K. MARSH.
- "Experiments on the synthesis of substances related to the sterols. Part XXX." By SIR ROBERT ROBINSON and F. WEYGAND.
- "Experiments on the synthesis of substances related to the sterols. Part XXXI." By J. G. COOK and SIR ROBERT ROBINSON.
- "5-Ethynylruban-5-ol and related compounds." By G. R. CLEMO and E. HOGGARTH.
- "Migration of acyl groups during hydrogenation of triglycerides." By D. ATHERTON and T. P. HILDITCH.
- "Preparation of tetradeuteroethylene dibromide by direct union of dideuteroacetylene and deuterium bromide. A route to tetradeuteroethylene." By C. L. WILSON and A. W. WYLIE.
- "Experiments on the synthesis of substances related to the sterols. Part XXXII." By SIR ROBERT ROBINSON and J. WILLENZ.
- "Experiments on the synthesis of substances related to the sterols. Part XXXIII. Hydrogenation of some *cyclopentenonaphthalene* derivatives." By L. C. BATEMAN and SIR ROBERT ROBINSON.
- "Solanum alkaloids. Part III. The alkaloids from *Solanum auriculatum*." By R. CULFORD BELL, L. H. BRIGGS, and J. J. CARROLL.
- "Solanum alkaloids. Part IV. The glycosidic moiety of the alkaloid from *Solanum auriculatum*." By L. H. BRIGGS and J. J. CARROLL.
- "The cure of bumping in mercury glass diffusion pumps." By N. K. ADAM and E. W. BALSON.
- "Dithio- β -isoindigo. Part II. Mechanism of its formation from phthalonitrile derivatives." By H. D. K. DREW and D. B. KELLY.
- "Dithio- β -isoindigo. Part III. Some further members of the series." By H. D. K. DREW and D. B. KELLY.
- "Experiments on the synthesis of substances related to the sterols. Part XXXIV. Some thiopyranaphenanthrene derivatives." By MISS N. A. MCGINNIS and SIR ROBERT ROBINSON.
- "Monothiophthalimide and some derivatives of oxindole." By J. C. PORTER, SIR ROBERT ROBINSON, and (the late) M. WYLER.
- "Note on the theory of aromatic substitutions and rearrangements with special reference to the benzidine change." By E. D. HUGHES and C. K. INGOLD.
- "Experiments on the synthesis of substances related to the sterols. Part XXXV. Furfurylideneacetone as a reagent for the extension of ring systems." By L. E. KING and SIR ROBERT ROBINSON.
- "An aspect of the interfacial adsorption process in oil-in-water emulsions." By B. A. TOMS.
- "Organic sulphur compounds. Part XXVII. On the relation between the constitution of thio-ethers and mercaptans and their sensitivity towards alkalis." By A. SCHÖNBERG and Y. ISKANDER.
- "Studies in peroxidase action. Part III. The oxidation of mesidine." By N. B. CHAPMAN and B. C. SAUNDERS.

- "Experiments on the synthesis of substances related to the sterols. Part XXXVI (Continuation of Part XXII)." By A. KOEBNER and SIR ROBERT ROBINSON.
- "The synthesis of growth-inhibitory polycyclic compounds. Part III." By G. M. BADGER.
- "The relative directive powers of the carboxylic and quaternary ammonium groups." By A. ZAKI and W. TADROS.
- "A new general method for the preparation of *o*-hydroxyaldehydes from phenols and hexamethylenetetramine." By J. COOPER DUFF.
- "The persulphate-iodide reaction. Part II. The critical increment, and the catalysed reaction in the presence of neutral salts." By W. J. HOWELLS.
- "Experiments on the synthesis of substances related to the sterols. Part XXXVII. Derivatives of chrysen." By L. GOLBERG and SIR ROBERT ROBINSON.

ADDITIONS TO THE LIBRARY.

I. Donations.

AMERICAN INSTITUTE OF CHEMICAL ENGINEERS. Collected papers on the teaching of chemical engineering. New York 1940. pp. vi + 383. ill. [In mimeograph form.] (*Reference.*) \$3.

CHEMICAL INDUSTRIES: a compilation of the data and information essential to the conduct of all process industries. Edited by D. M. NEWITT. London 1941. pp. 304 + lxxix. ill. (*Reference.*) 10s. net.

From the Publishers: Messrs. Leonard Hill.

JONES, OSMAN and JONES, T. W. Canning practice and control. 2nd edition. London 1941. pp. xiv + 311. ill. 32s. net. (*Recd.* 13/6/41.)

From Mr. T. W. Jones.

II. By purchase.

ADVANCES IN ENZYMOLOGY and related subjects. Edited by F. F. NORD and C. H. WERKMAN. Vol. I. New York 1941. pp. x + 433. ill. (*Reference.*) \$5.50.

BLUM, HAROLD FRANCIS. Photodynamic action and diseases caused by light. (American Chemical Society Monograph Series.)

New York 1941. pp. xii + 309. ill. \$6. (*Recd.* 19/6/41.)

HOGNESS, T. R., and JOHNSON, WARREN C. Ionic equilibrium as applied to qualitative analysis. New York 1941. pp. x + 306. ill. \$2. (*Recd.* 19/6/41.)

LLEWELLYN, F. B. Electron-inertia effects. Cambridge 1941. pp. x + 104. ill. 7s. 6d. net. (*Recd.* 19/6/41.)

TWYMAN, F. The spectrochemical analysis of metals and alloys. London 1941. pp. viii + 355. ill. 21s. net. (*Recd.* 19/6/41.)

VINAL, GEORGE WOOD. Storage batteries. 3rd edition. New York 1940. pp. x + 464. ill. \$5. (*Recd.* 19/6/41.)

WACHTEL, CURT. Chemical warfare. Brooklyn 1941. pp. x + 312. \$4. (*Recd.* 19/6/41.)

III. Pamphlets.

BORAX CONSOLIDATED, LTD. Practical notes on the manufacture of leather. London 1937. pp. 74.

— Boron in agriculture. London 1940. pp. 36. ill.

PROCEEDINGS
OF THE
CHEMICAL SOCIETY.

OFFICIAL ANNOUNCEMENTS

DEATHS.

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

	Elected.	Died.
James A. Pond	1890	June 8th, 1941.
Robert Robison, F.R.S.	1911	June 18th, 1941

FORTHCOMING LECTURES.

The Council are glad to announce that the Eighth Hugo Müller Lecture, entitled "Some Aspects of Algal Chemistry," by Professor I. M. Heilbron, D.S.O., D.Sc., F.R.S., which was postponed from last November, will be given in London on October 16th, 1941; that Dr. W. H. Mills has accepted the invitation to give the Eighth Pedler Lecture in April 1942, and that Dr. H. J. Emeléus and Professor R. D. Haworth have accepted the invitation to give the Tilden Lectures during the forthcoming session.

PROVISION OF FINE CHEMICALS FOR WORK OF NATIONAL IMPORTANCE.

The Advisory Research Council of the Chemical Society has inaugurated a scheme to facilitate the supply of fine chemicals needed for work of national importance, but which are not available commercially.

The Sub-committee organising this work particularly desires to draw the attention of all users of fine chemicals to the existence of this scheme, in order that the greatest possible use may be made of the generous offers of help which have been received from numerous chemists in Universities, Technical Colleges and Schools, who have suitable laboratory facilities at their disposal.

The scheme, which works in close collaboration with the Association of British Chemical Manufacturers, is an attempt to use to the best possible advantage both the laboratory facilities and the skilled manpower in teaching institutions and other laboratories which may not at present be fully harnessed to the war effort.

Before a chemical can be accepted for preparation under this scheme, the Committee must be satisfied that the chemical is unobtainable from any British manufacturing firm and that it is required for urgent work of national importance within the British Empire. The scheme provides for the manufacture of approved items at basic charges which represent only the cost of raw material and such overheads as gas, electricity, etc. There is no charge for the chemist's services.

Enquiries from both individuals and firms for chemicals which might be produced under the scheme should be made to the General Secretary, Mr. S. E. Carr, The Chemical Society, Burlington House, Piccadilly, London, W. 1, from whom further details can be obtained.

LIST OF APPLICATIONS FOR FELLOWSHIP

(*Fellows wishing to lodge objections to the election of any of these candidates should communicate with the Honorary Secretaries not later than Monday, 18th August, 1941. Such objections will be treated as confidential. The forms of application are displayed in the Library.*)

Addingley, Charles Gordon, B.Sc. and Ph.D. (Leeds), A.I.C. British. Cleckheaton. Chief Chemist of Works.

Signed by : Alex. Findlay, R. Leslie Collett, J. J. Fox.

Atherton, Donald, B.Sc.Hons. and Ph.D. (L'pool), A.I.C. British. 46, Booker Avenue, Liverpool, 18. Research Chemist.

Signed by : R. A. Morton, T. P. Hilditch, M. L. Meara.

Babb, Alfred Thomas Symonds, B.Sc. (Lond.), A.I.C. British. 27, Chippenham Avenue, Monks Park, Wembley. Analytical and Research Chemist.

Signed by : Leslie H. Lampitt, H. S. Rooke, G. E. Forstner.

Beer, Charles Thomas, A.I.C. British. c/o Mrs. James, Glyncoed, Priory Street, Cardigan. Chemist.

Signed by : K. D. Errington, Robert Dodd, D. F. Runnicles.

Booton, Joseph, A.I.C., A.M.C.T. (Manc.). English. 13, Field Road, Firgrove, Rochdale. Paper Mill Chemist.

Signed by : J. Kenner, John K. Wood, R. E. Oldroyd, Edward L. Dawson.

Coake, Frank, F.I.C., Dip. Royal Tech. Coll. Salford. English. Runswick, Wood Walk, Wombwell. Manager of a Coking Company.

Signed by : J. J. Fox, R. Leslie Collett, B. A. Ellis.

Cotton, Frank Harriss, M.Sc. (Lond.), A.I.C., A.I.R.I.Sc. British. Windyridge, 43, Cedar Avenue, East Barnet. Lecturer in Rubber Technology, The Northern Polytechnic.

Signed by : R. W. West, T. J. Drakeley, H. J. S. King.

Davidson, Alexander Linton, Ph.C., F.I.C. Scots. Suite 26, Valcartier Apts, 61, Cartier Street, Ottawa. Senior Dominion Analyst.

Signed by : E. W. R. Steacie, G. S. Whitby, C. H. Robinson.

Ferry, Norman, B.Sc.Hons. (Lond.), A.I.C. British. 12, South Drive, Chaddesden, nr. Derby. Chemist.

Signed by : W. J. R. Way, W. S. Patterson, R. J. Winterton.

Goddard, Reginald Edwin, B.Sc. (Lond.), A.R.C.S. British. 7, Weymouth Avenue, Ealing, W. 5. Research Assistant, Department of Physical and Inorganic Chemistry, Royal College of Science, London, S.W. 7.

Signed by : H. V. A. Briscoe, H. J. Emeléus, A. G. Maddock, G. R. Martin.

Greenwood, Harry Stanley, A.I.C., A.M.I.Chem.E. British. Holmoyd, 368, Bradley Road, Bradley, Huddersfield. Chemist and Director to a firm of Chemical Manufacturers.

Signed by : A. Whitehead, F. Farrington, Charles L. Crosland.

Greenwood, Herbert Donald, M.Sc. (Leeds), A.I.C., A.M.I.Chem.E. British. 19, Kidbrooke Park Road, Blackheath, S.E. 3. Chemist, South Metropolitan Gas Co.

Signed by : W. A. Damon, J. S. Carter, F. M. Potter.

Haigh, Arnold Schofield, B.Sc. and Ph.D. (Leeds). British. Norwood, Polmont Road, Lauriston. Works Chemist.

Signed by : R. J. Loveluck, E. J. Beckett, J. K. Thomson.

Hands, Charles Henry, 1st Final City Guilds Manufacture of Iron and Steel. Inter B.Sc. Standard, Metallurgy, Physics, Maths and Chemistry, B'ham Tech. Coll. British. 12a, Chestnut Court, Harrow Road, Sudbury. Chief Works Chemist.

Signed by : W. H. J. Vernon, R. Taylor, D. V. N. Hardy.

Harper, Clifford Stuchbery, B.Sc. (Lond.), A.I.C. British. Holmdale, 91, Fosse Way, Syston. Chemist.

Signed by : G. L. Hammond, Cecil L. Wilson, C. Whitworth.

Hartley, Wilfred, A.I.C. British. Belmont, Moorwell Road, Yaddletorpe, Scunthorpe. Fuel Chemist.

Signed by : R. Leslie Collett, R. John Sudlow, Norman B. Biggs.

Hewis, Harold Wilton, B.Sc. (Lond.), A.I.C. British. Freeth Street, Birmingham, 16. Works Chemist.

Signed by : H. M. McLean, Garfield Thomas, G. H. Edwards.

Hutt, Harold Hamilton, A.I.C. English. 32, Hoodyear Road, Bromborough. Works Chemist.

Signed by : B. H. Chorley, H. Jaspersen, C. Leslie Bibby.

Jones, Robert Owen, A.R.C.S., B.Sc. (Lond.), D.I.C., A.I.C. British. Rosslyn, 13, Skelwith Road, W. 6. Research and Analytical Chemist.

Signed by : Leslie H. Lampitt, H. S. Rooke, E. M. Jackson.

Littlejohn, Malcolm, M.A.Hons., B.Sc. and B.Sc.Eng. (Glas.), A.I.C. British. Works Manager.

Signed by : A. S. Russell, Andrew Henderson, James Roberts.

McLaren, George. British. 325, Borough High Street, S.E. 1. Chief Chemist.

Signed by : Claude L. Claremont, H. E. Cox, Thos. Macara.

Macleod, George Torquil, B.Sc.Hons. (Glas.), A.I.C. British. 694, Duke Street, Glasgow, E. 1. Managing Director of a firm of Chemical Manufacturers.

Signed by : F. Rumford, W. M. Cumming, A. B. Crawford.

Maddison, Lionel, B.Sc.Hons., Ph.D. (L'pool), A.I.C. British. 2, Milne Road, Liverpool, 13. Research Student.

Signed by : T. P. Hilditch, R. A. Morton, M. L. Meara.

Miles, Gordon Daw, B.Sc. (Lond.), A.I.C. British. 1, St. George's Terrace, Regents Park, N.W. 1. Analytical Chemist, Water and Sewage.

Signed by : W. Rogie Angus, H. J. Evans, L. F. Gilbert.

Phillipson, John Maddison, B.Sc. (Lond.), A.I.C. British. 52, Elmwood Avenue, Belfast. Industrial Chemist.

Signed by : Henry Wren, H. Lambourne, W. Taylor.

Reid, William Walter, A.I.C. British. 54, Julien Road, S. Ealing, W. 5. Chemist and Bacteriologist.

Signed by : B. Meredith Brown, B. F. Sawbridge, L. J. Bellamy.

Reynolds, George David, Ph.D., M.Sc., B.Sc. (Sheffield), A.I.C. British. 80, Parkway, Welwyn Garden City. Research Chemist.

Signed by : Brynmor Jones, J. C. Speakman, E. Gertrude Turner, Arthur W. Chapman.

Roach, John, A.I.C. British. 6, Chestnut Avenue, Widnes. Analytical Chemist.

Signed by : J. G. Cockburn, Aneurin Williams, Mary E. Miller.

Samson, Abraham, A.R.C.S., A.I.C. British. Samor Lodge, Park Road, Didcot. Consulting Food Chemist.

Signed by : H. J. T. Ellingham, A. A. Eldridge, James C. Philip.

Savage, Leslie Henry Wallis, M.Sc. (Lond.), A.I.C. British. 39, Rutherglen Road, Corby. Chemist and Chemical Engineer.

Signed by : R. Leslie Collett, J. J. Fox, B. A. Ellis.

Shaffer, Gershon, B.Sc.Hons. and M.Sc. (Manc.). British. 7, Mill Court, Mill Road, West Drayton. Technical Development Chemist.

Signed by : G. N. Burkhardt, Colin Campbell, J. B. M. Herbert.

Waddington, Arthur Hill, B.Sc.Hons. (Birm.), A.I.C. British. 23, Torver Road, Harrow. Chief Chemist and Bacteriologist.

Signed by : A. Parker, Wm. Wardlaw, S. R. Carter.

Walthew, Reginald Carrington, M.Sc. Tech. (Manc.), A.I.C. English. 7, West Common Gardens, Scunthorpe. Fuel Engineer.

Signed by : R. Leslie Collett, R. John Sudlow, Norman B. Biggs.

Webb, Charles Ernest, B.Sc.Hons. (Lond.), A.I.C. British. 75, Station Road, Glastonbury. Analytical and Research Chemist at a boot and shoe factory.

Signed by : H. T. S. Britton, R. King, L. L. Bircumshaw.

Webber, Harold Frank Philip, B.Sc. (Lond.), A.I.C. British. Willow Walk, Chertsey. Chief Chemist to a Brewery.

Signed by : Robert H. Pickard, J. Kenyon, A. Houston.

Wilkinson, John Henry, B.Sc. (Lond.), M.P.S., D.B.A. British. 5, Avondale Court, Churchfields, South Woodford, E. 18. Pharmacist and Biochemist.

Signed by : C. Kemplay, H. Lucas, E. R. Thomas.

Wilson, Donald Cumming, B.Sc. (Edin.), Associate of Heriot-Watt College, A.I.C. British. 28, St. Ninian's Road, Corstorphine, Edinburgh. Technical Chemist.

Signed by : William Francis Martin, Henry E. Watt, James W. Laing.

Wilson, Walter. British. Church Road, Wisbech St. Mary. Student for B.Sc. and A.R.C.S. in Chemistry at the Royal College of Science.

Signed by : G. A. R. Kon, H. V. A. Briscoe, A. H. Cook.

Wiseman, Leonard Albert, B.Sc.Hons. (Lond.), A.I.C. British. Munayfield, Elmlea Avenue, Bristol, 9. Assistant Lecturer and Demonstrator in Chemistry, King's College, London.

Signed by : G. M. Bennett, Gwyn Williams, H. D. Springall.

UNDER SPECIAL PROVISION APPERTAINING TO APPLICANTS RESIDENT ABROAD :

Gerdes, Joachim Friedrich August, B.Sc. (Witwatersrand), Diplom Ingénieur (Techn, Hochschule, Aachen), A.I.C. British. 9, Seymour Avenue, Parktown West, Johannesburg. Chemist to Refractories Section of the Consolidated Rand Brick Pottery and Lime Co., Ltd.

Signed by : Henry Stephen, L. Golberg.

Jolly, S. Edward, B.S. in Ch.E. (Grove City College). American. Sun Oil Company, Chester Pike, Norwood, Pa. Chemist.

Signed by : A. E. Dunstan.

PAPERS RECEIVED

List of papers received between June 19th and July 21st, 1941. (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 salting out of weak electrolytes. The temperature effect." By T. J. MORRISON.

"Palmitoyl- and stearyl-glycylglycine and diglycylglycine." By A. KOEBNER.

"Experiments on the synthesis of substances related to the sterols. Part XXXVIII. Ethyl cyclohexane-1:4-dionecarboxylate and some other intermediates." By SIR ROBERT ROBINSON and E. SEIJO.

"Experiments on the synthesis of substances related to the sterols. Part XXXIX. (a) Some derivatives of hydrindene. (b) Reduction of 1- γ -ketobutyl-2-naphthol." By F. J. McQUILLIN and SIR ROBERT ROBINSON.

"The coupling of *m*-fluorophenol with some diazotised amines and the preparation of 2-fluorobenzoquinone." By H. H. HODGSON and D. E. NICHOLSON.

"The isomeric mandelohydrazones of benzoin." By Miss E. M. LUIS and ALEX. MCKENZIE.

"The influence of substituents on the reactivity of the hydroxyl group in β -phenylethyl alcohol." By G. M. BENNETT and M. M. HAFEZ.

"The cleavage of some arylazo- β -naphthylamines by alcoholic hydrochloric acid." By H. H. HODGSON and C. K. FOSTER.

"Comments on the influence of the solvent on the relative strengths of monocarboxylic acids." By J. F. J. DIPPY.

"Preliminary observations on the behaviour of rhenium and of the complex thiocyanates of rhenium and molybdenum with toluene-3:4-dithiol." By Miss C. C. MILLER.

- “Qualitative semimicro-analysis with reference to Noyes and Bray’s system : The copper and the tellurium group.” By MISS C. C. MILLER.
- “The mobility of groups in chloronitrodiphenylsulphones.” By J. D. LOUDON and N. SHULMAN.
- “Addition of maleic anhydride and ethyl maleate to substituted styrenes.” By B. J. F. HUDSON and SIR ROBERT ROBINSON.
- “Nitrous acid as a nitrating and oxidising agent. Part V. Reactions with the four 3-halogenodimethylanilines.” By H. H. HODGSON and D. E. NICHOLSON.
- “Hexamethoxybenzene.” By SIR ROBERT ROBINSON and C. VASEY.
- “A new route to the synthesis of dibenzfluorenones.” By G. SWAIN and A. R. TODD.
- “Polycyclic aromatic hydrocarbons. Part XXVIII. Dibenzfluorenes.” By R. H. MARTIN.
- “Structures of degradation products of picene.” By J. W. COOK.
- “The bimolecular condensation of *p*-propenylanisole (anethole) under the influence of heat.” By N. R. CAMPBELL.
- “The associating effect of the hydrogen atom. Part VIII. The N–H–N bond. Benz-*iminazoles*, glyoxalines, amidines, and guanidines.” By L. HUNTER and J. A. MARRIOTT.
- “Electric polarisation and molecular vibrations. The ethylene dihalides and diacetyl.” By G. I. M. BLOOM and L. E. SUTTON.
- “An interpretation of the Sandmeyer reaction.” By H. H. HODGSON, S. BIRTWELL, and (in part) J. WALKER.
- “The cyclic methyleneimines. Part IV. Hydrolysis of quaternary compounds. Preparation of secondary amines.” By J. GRAYMORE.
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ADDITIONS TO THE LIBRARY.

I. *Donations.*

BRITISH ALUMINIUM Co., LTD. Chemical analysis of aluminium and its alloys. London 1938-40. pp. 85 + 32. ill. (*Recd.* 21/7/41.)
From the Director.

II. *By Purchase.*

AMERICAN INSTITUTE OF PHYSICS [and others]. Temperature, its measurement and control in science and industry. Papers presented at a symposium. New York 1941. pp. xiv + 1362. ill. \$11. (*Recd.* 24/6/41.)

BABBITT, HAROLD E. Sewerage and sewage treatment. 5th edition. New York 1940. pp. xx + 648. ill. \$5. (*Recd.* 24/6/41.)

BECK, ADOLF. The technology of magnesium and its alloys. Translated by the technical staffs of F. A. HUGHES & Co., LTD., and MAGNESIUM ELEKTRON, LTD. London 1940. pp. xxiv + 512. ill. 30s. net. (*Recd.* 24/6/41.)

BERKMAN, SOPHIA, MORRELL, JACQUE C., and EGLOFF, GUSTAV. Catalysis, inorganic and organic. New York 1940. pp. xii + 1130. ill. \$18. (*Recd.* 25/6/41.)

EDDY, WALTER H. What are the vitamins? New York 1941. pp. viii + 247. ill. \$2.50. (*Recd.* 24/6/41.)

ELLIS, CARLETON, and WELLS, ALFRED A. The chemical action of ultraviolet rays. [2nd] revised edition. By FRANCIS F. HEYROTH. New York 1941. pp. x + 961. ill. \$12. (*Recd.* 24/6/41.)

PATTERSON, AUSTIN M., and CAPELL, LEONARD T. The ring index: a list of ring systems used in organic chemistry. (American Chemical Society Monograph Series.) New York 1940. pp. 661. (*Reference.*) \$8.

WILSON, JOHN ARTHUR. Modern practice in leather manufacture. New York 1941. pp. 744. \$9.50. (*Recd.* 24/6/41.)

III. *Pamphlets.*

MEDICAL RESEARCH COUNCIL. *Therapeutic Requirements Committee*. Economy in the use of drugs in war-time. London 1941. pp. 18.

ST. ANDREWS, UNIVERSITY OF. Centenary Lecture. The Chair of Chemistry in the United College of St. Salvator and St. Leonard. By SIR JAMES COLQUHOUN IRVINE. Edinburgh 1941. pp. 27. ill.

August 1941

THE CHEMICAL SOCIETY

NOTICE OF FORTHCOMING SCIENTIFIC MEETINGS

MEETINGS IN LONDON.

Thursday, October 16th, 1941, at p.m.

Eighth Hugo Müller Lecture, entitled: "Some Aspects of Algal Chemistry," by Professor I. M. Heilbron, D.S.O., D.Sc., F.R.S.

MEETINGS OUTSIDE LONDON.

EDINBURGH.

Tuesday, November 11th, 1941, at 6.30 p.m.

Lecture on "The Crystallisation of Graphite," by Professor H. L. Riley, D.Sc. Joint meeting with the Edinburgh University Chemical Society and the Local Sections of the Institute of Chemistry and the Society of Chemical Industry. To be held in the Bio-chemical Lecture Theatre, Teviot Place.

LIVERPOOL.

Thursday, November 13th, 1941.

Lecture by Professor T. P. Hilditch, D.Sc., F.I.C. Further particulars to be announced.

SHEFFIELD.

Friday, November 21st, 1941, at 5.30 p.m.

Lecture on "Polymers," by Professor H. W. Melville, D.Sc., Ph.D., F.R.S. Joint meeting with the Sheffield University Chemical Society, to be held in the Chemistry Lecture Theatre of the University.

LEEDS.

Friday, October 13th, 1941.

Lecture by Dr. J. Monteath Robertson. Further particulars to be announced later.

PROCEEDINGS

OF THE

CHEMICAL SOCIETY.

OFFICIAL ANNOUNCEMENTS

DEATHS.

The intimation of the sudden death on August 6th of the President, Professor James C. Philip, F.R.S., was received by the Officers of the Society with profound sorrow on August 7th, and the senior Secretary consented to convey their sympathy to Mrs. Philip. The Society was represented at the funeral service on August 9th by Dr. C. W. Davies, Professor W. Wardlaw, the General Secretary and the Librarian.

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

	Elected.	Died.
Frederick W. Hampshire	1930	July 20th.
Hermann G. Mohrhenn	1931	July 3rd.
Sir Francis G. Newbolt	1885	November 5th, 1940.
James A. Pond	1890	June 8th.
Robert Robison	1911	June 18th.
Leonard T. Thorne	1882	July 23rd.
Henry H. Whitelegg	1939	
Sir William F. Wyley	1884	August 11th, 1940.

DISPATCH OF THE PUBLICATIONS OF THE SOCIETY.

In an effort to overcome the delay that has occurred in issuing the publications this year, the Council have taken steps which should ensure that these will be sent out more promptly in the future.

ACKNOWLEDGMENTS.

The Council have expressed their thanks to the Royal Society for a grant of £300 from the Government Publications Grant towards the cost of the Society's publications for 1941; to Mr. J. Bruce Miller, Colonel R. B. Turbutt and "Anonymous" for contributions to the Publications Fund, and to Miss C. M. G. Mohrhenn and Dr. G. H. Wyatt for volumes of the Society's publications.

HARRISON MEMORIAL PRIZE.

In accordance with the Trust Deed governing the Harrison Memorial Fund, the Selection Committee consisting of the Presidents of the Chemical Society, the Institute of Chemistry, the Society of Chemical Industry, and the Pharmaceutical Society, will proceed to make an award of the Harrison Memorial Prize in December next.

The Prize, of the value of about £150, will be awarded to the chemist of either sex, being a natural-born British subject and not at the time over thirty years of age, who, in the opinion of the Selection Committee, during the previous five years has conducted the most meritorious and promising original investigations in any branch of pure or applied chemistry and published the results of those investigations in a scientific periodical or periodicals.

Provided that, in the opinion of the Selection Committee, there is a candidate of sufficient distinction to warrant an award of the Prize, the next award will be made in December, 1941.

Applications, five copies of which must be submitted, should contain the following information :

- (a) Name (in full).
- (b) Age (Birth certificate must accompany application).
- (c) Degrees (name of University where obtained).
- (d) Other qualifications.
- (e) Experience.
- (f) Titles of published papers, with authors' names, including full references to publication.
- (g) Where research was carried out.
- (h) Testimonials or references.
- (i) Any other particulars bearing on the application.

The Selection Committee is prepared to receive applications, nominations, or information as to candidates eligible for the Prize. Any such communication must be received by

The President,
The Chemical Society,
Burlington House,
Piccadilly,
London, W.1.

not later than Monday, December 1st, 1941. Candidates for the Prize must not be more than 30 years of age at this date.

FELLOWSHIP.

The resignations of 10 Fellows have been accepted; 5 Fellows have been reinstated and the following 63 candidates were elected Fellows on August 7th :

William Taylor Allan.	William Julian Kramers.
Ronald Lewis Allen.	Arthur Ronald Lockwood.
John Edmund Aps.	Charles Robertson Loudon.
Arthur Price Backshell.	Edward Ian McDougall.
Donald Greatbatch Barkla.	Harold Colin Macfarlane.
Caleb Binns.	Ian Nuttall Merrill.
Thomas Hedley Blakeley.	John Garnet Frederick Miller.
Joan Elizabeth Blomfield.	James Milne.
Enid Agnes Margaret Bradford.	Charles Arthur Minors.
William Bullough.	Harold Edward Monk.
William James Carter.	Reginald James Munro.
William Thomas Chambers.	Wilfred Murray.
Kenneth Thomas Chapman.	Mamie Olliver.
Joseph Clifford.	Frederick Perkins.
Frederick George Crosse.	Leonard William Ragg.
Michael Joseph Curran.	Thomas Raine.
Thomas Pride Dee.	Walter James Rees.
William Thornton Dow.	John William Reidy.
Albert Norman Edmondson.	Charles Fletcher Roberts.
Philip Edward Lodovico Farina.	Muriel Roberts.
Alexander Langridge Ford.	Leonard Unthank Salkield.
John Foster.	Stanley Victor Sergeant.
William Gray.	Eric James Sewell.
Gilbert Harding.	Sydney William Sleigh.
Clifford Harris.	Oliver Ward Stickland.
Arthur Ingrey Hayes.	William Norman Stokoe.
Herbert Colston Hillman.	Norman Eric Topp.
David M'Rae Honeyman.	Alexander Urie.
George Lewis Hutchison.	Kenneth Sidney Warner.
Maurice Arthur George Kaye.	James Macer Wright.
Douglas Graham Kerr.	John Lewis Yuill.
Leslie Walter King.	

LIST OF APPLICATIONS FOR FELLOWSHIP

(*Fellows wishing to lodge objections to the election of any of these candidates should communicate with the Honorary Secretaries not later than Monday, September 15th. Such objections will be treated as confidential. The forms of application are displayed in the Library.*)

Ainsworth, Arthur Nicholls, B.Sc. (Lond.), A.I.C. British. Pinewood House, Uxbridge Road, Pinner. Research and Analytical Chemist.

Signed by : Leslie H. Lampitt, E. B. Hughes, C. Dorée.

Barlow, Charles Gerald, M.A. (Cantab.), A.I.C. British. The Hermitage, Fulmer Road, Gerrards Cross. Chemist in laboratories of food manufacturing firm.

Signed by : P. Bilham, H. E. Bradfield, H. S. Rooke.

Bennion, Edmund Baron, M.Sc. (Tech.), F.I.C., Full Technological Certificate City and Guilds of London in Flour Milling and Breading Technology. British. 8, Broadmead Road, Woodford Green. Head of National Bakery School.

Signed by : R. A. Peters, Jas. Sword, C. W. Herd.

Chadwick, Eric, B.Sc. and M.Sc. Tech. (Manc.). British. Norwood, Heywood Hall Road, Heywood. Research Chemist (Industrial).

Signed by : J. Kenner, John K. Wood, A. F. H. Ward.

Clark, Douglas, B.A. and B.Sc. (Oxon.). British. 11, Kenyon Avenue, Wrexham. Technical Assistant.

Signed by : Ronald P. Bell, G. V. Raynor, H. M. Powell.

Cowin, Robert Archibald, A.I.C. British. 14, Ulster Road, Bowerham. Research Chemist.

Signed by : J. J. Fox, Robert H. Pickard, R. Leslie Collett.

Dagliesh, Charles Edward, 3rd year student, Cambridge University, 1st Class in Part I. British. Trinity College, Cambridge. Undergraduate.

Signed by : F. G. Mann, H. McCombie, N. B. Chapman.

Davis, John Gilbert, D.Sc., Ph.D. (Lond.), F.I.C. British. Shinfield, Reading. Bacteriologist.

Signed by : H. D. Kay, R. Leslie Collett, J. J. Fox.

Downer, John Douglas, B.Sc.Hons., A.R.C.S., A.I.C. British. 72, Falconwood Avenue, Welling, Kent. Research Chemist.

Signed by : H. A. Piggott, E. H. Rodd, M. Barrowcliff.

Gillies, Malcolm, M.A., B.Sc. (Glas.), D. Phil. (Frankfurt). British. Wyvis Cottage, Lockleys, Welwyn. Plant Manager.

Signed by : T. S. Work, J. M. Walter, P. Russell.

Haddock, Norman Aulton, B.Sc. (Lond.), A.I.C. British. 7, Canterbury Drive, Prestwick, Manchester. Research Chemist.

Signed by : Samuel Coffey, Percy Chorley, A. W. Baldwin.

Holden, Frank, M.A. (Cantab.). British. 87, King Street, Shrewsbury. Research Chemist

Signed by : A. Marshall, R. C. Farmer, C. S. Bryant.

Jones, Idwal George, B.Sc.Hons. and M.Sc. (Wales), A.I.C. British. 39, Axholme Road, Doncaster. Senior Science Master, The Grammar School, Doncaster.

Signed by : T. Campbell James, C. R. Bury, D. Gwynne Davies.

Krajkeman, Andreas, Dipl. Ing. Chem. E.T.H. (Federal Institute of Technology, Zurich). Polish. 28, St. John's Court, Finchley Road, N.W. 3. Public Analyst's Assistant.

Signed by : Thomas McLachlin, Hugo J. Strauz, Lilian M. Mundy.

Llewellyn, Donald Rees, B.Sc.Hons. (Birm.). British. Brynteg, Woodmancote, Dursley. Research Assistant, The Clarendon Laboratory, University Museum, Oxford.

Signed by : G. A. Jeffrey, S. R. Carter, D. J. G. Ives.

Lovett, Henry, M.P.S. British. 12b, Belsize Crescent, N.W. 3. Manager and Secretary of Chemical Works.

Signed by : Hubert A. Berens, Percy Barrs, J. J. Laws.

- Meech, Frank Button**, B.Sc. (Lond.), A.I.C. British. 9, Eadborne Road, Orrell Park, Liverpool, 9. Works Chemist.
Signed by : W. H. Banks, G. L. Riddell, A. J. E. Welch.
- Messenger, Walter George**, B.Sc. (Birm.), F.I.C. British. Wissahickon, Sandy Lodge Road, Moor Park, Rickmansworth. Chief Assistant Chemist to Messrs. J. Lyons & Co., Ltd.
Signed by : E. B. Hughes, G. E. Forstner, P. Bilham.
- Perry, Cecil Arthur**, B.Sc. (Lond.), A.I.C., A.R.C.S. British. 13, Bourne View, Greenford. Research Student at Imperial College.
Signed by : D. H. Hey, G. A. R. Kon, A. H. Cook.
- Rayner, Hughe Boynton**, Student Member of the Institute of Chemistry. British. The Handside Farmhouse, Handside Lane, Welwyn Garden City. Junior Works Control Chemist, Deputy Plant Manager in half-time charge of works.
Signed by : G. V. James, F. Bergel, A. Cohen.
- Ross, Walter Charles Joseph**, B.Sc. (Lond.), A.I.C. British. 42, Ripley Gardens, Mortlake, S.W. 14. Research Student at Imperial College.
Signed by : G. A. R. Kon, E. R. H. Jones, Charles Simons.
- Selfe, Francis Leslie**, A.I.C. British. 1 Wiseton Road, Sheffield, 11. Steelworks Analytical Chemist.
Signed by : H. Lambourne, W. Taylor, R. Leslie Collett.
- Smith, Ralph Austin**, M.P.S. British. 3, Barbourne Road, Worcester. Pharmacist (Practising medical and brewing analyses).
Signed by : H. Humphreys Jones, J. Ross-MacKenzie, R. Harold Morgan.
- Turner, Laurence Walter**, B.Sc.Hons. (Dun.). British. 22, Westbury Road, Ipswich. Research Chemist.
Signed by : Geoffrey Swann, R. S. Colborne, A. P. Best.
- Tyrrell, Arthur**. British. 277, Coldharbour Lane, S.W. 9. Assistant Research Chemist.
Signed by : D. H. Hey, E. R. H. Jones, Charles Simons.
- Willey, Walter Lloyd**. Studied at Polytechnic, London, Sir John Cass Tech. Institute. Studied and worked in Continental Charcoal Works, 1898—1900. Member of the Society of Chemical Industry, Fellow Royal Society of Arts. 42 years in Carbon Chemicals. British. 5, Vanbrugh Fields, Blackheath, S.E. 3. Director of firm of Chemical Manufacturers.
Signed by : John Knaggs, E. F. Armstrong, E. V. Evans.
- Wilson, Alfred Peter**, M.A. (Cantab), 20 years in Chemical Industry. British. The Lyons, Enville, nr. Stourbridge. Technical and Research Director.
Signed by : R. Topley, J. G. Clarke, G. S. King, S. Bennett.
- Wise, Stanley George Arthur**, A.I.C. British. 1, The Crescent, Hall Lane, Horsforth, nr. Leeds. Works Chemist and Departmental Manager.
Signed by : Frederick M. Rowe, Arnold T. Peters, H. Burton.
- Wiseman, Cecil Edgar**, B.Sc. (Lond.), A.I.C., A.C.G.F.C. British. 1, Poplar Grove, Maidstone. Chemist to a firm of Manufacturing Confectioners.
Signed by : Wm. H. Woodcock, J. C. Mellersh, F. W. F. Arnaud.

**UNDER SPECIAL PROVISIONS APPERTAINING TO APPLICANTS RESIDENT
ABROAD.**

- Bost, Ralph Walton**, A.B. Newberry College, 1923 ; A.M. and Ph.D. University of North Carolina. American. Department of Chemistry, University of North Carolina, Chapel Hill, North Carolina. Head, Department of Chemistry and Professor of Chemistry, University of North Carolina.
Signed by : Frank C. Whitmore.
- Pomeraniec, Jakob**, Dr. Ing., Dipl. Ing. Technical College, Berlin. Polish. 55, Greencroft Gardens, N.W. 6. Research and Manufacturing Chemist.
Signed by : K. Wallersteiner, R. Barrington Brock.
- Reeson, William Bateman**, A.I.C., A.M.C.T. British. Apartado 763, Barranquilla, Colombia, South America. Chief Chemist, Fabrica de Rayon Viscosa, Barranquilla.
Signed by : J. J. Fox, R. Leslie Collett.

Sandler, Robert, B.Sc. Eng. (Witwatersrand), A.R.T.C. (Glas.), A.I.C., Member South African Chemical Institute, Member American Society for Testing Materials. Union of South Africa (Union National). c/o Anglo-Alpha Cement Ltd., P.O. Box 15, Roodepoort, Transvaal, S. Africa. Chief Chemist, Anglo-Alpha Cement, Ltd.
Signed by : W. M. Cumming.

PAPERS RECEIVED

List of papers received between July 21st and August 20th, 1941. (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 decomposition of arylazo- β -naphthylamines by sodium nitrite and glacial acetic acid." By H. H. HODGSON and C. K. FOSTER.
- "The constitution of lupeol." By E. R. H. JONES and R. J. MEAKINS.
- "Surface films of lupane derivatives." By P. BILHAM, E. R. H. JONES, and R. J. MEAKINS.
- "The exchange reactions of 4-nitro-1-naphthyl methyl ether and 4-nitro-1-naphthylethyl ether with sodium ethoxide and methoxide respectively, and the reduction of certain 1-nitronaphthalene derivatives." By H. H. HODGSON and J. HABESHAW.
- "The photolysis of some chloronitroso-compounds." By S. MITCHELL, K. SCHWARZWALD, and G. K. SIMPSON.
- "The kinetics of aromatic bromination. Part I. The anilides." By P. W. ROBERTSON, P. B. D. DE LA MARE, and W. T. J. JOHNSTON.
- "Two ketones of the stilboestrol group." By MRS. R. JAEGER and SIR ROBERT ROBINSON.
- "Benz-cyclo-octatetraenes. Part II. The action of acetic anhydride on δ -benzylidene-lævulinic acids." By W. S. RAPSON and R. G. SHUTTLEWORTH.
- "Some derivatives of thioxanthene." By C. V. T. CAMPBELL, A. DICK, J. FERGUSON, and J. D. LOUDON.
- "6-Bromo-2-methoxy-1-naphthoic acid." By F. L. WARREN, M. GINDY, and F. G. BADDAR.
- "Derivatives of 1:2:3:4-tetrahydroxybenzene. Part VII. The synthesis of fumi-gatin." By W. BAKER and H. RAISTRICK.
- "Derivatives of pentahydroxybenzene and a synthesis of pedicellin." By W. BAKER.
- "Carboxylic acids derived from 4:4'-diaminodiphenylsulphone." By W. H. GRAY and B. C. PLATT.
- "Mechanism of aromatic side-chain reactions with special reference to the polar effects of substituents. Part X. Physical and chemical evidence relating to the polar effect of *o*-methyl substituents in derivatives of the type $(\text{CH}_3)_3\text{C}_6\text{H}_2\text{-CO-CH}_2\text{R}$." By J. W. BAKER and W. T. TWEED.
- "Molecular volume and structure. Parts III, IV, and V." By T. W. GIBLING.
- "Note on the constitution of β -boswellic acid." By J. C. E. SIMPSON and G. A. R. KON.
- "On two lower oxides of boron." By R. C. RAY and P. C. SINHA.

THE CHEMICAL SOCIETY

NOTICE OF FORTHCOMING SCIENTIFIC MEETINGS

IN LONDON.

Thursday, October 16th, at 2.30 p.m.

Eighth Hugo Müller Lecture entitled: "Some Aspects of Algal Chemistry," by Professor I. M. Heilbron, D.S.O., D.Sc., F.R.S.

Thursday, October 30th, at 2.30 p.m.

Lecture on "The Constitution of Plastics," by Dr. C. Redfarn. Joint meeting with the Plastics Group of the Society of Chemical Industry.

Thursday, November 20th, at 2.30 p.m.

Lecture on "X-Rays and the Stoicheiochemistry of the Proteins," by Dr. W. T. Astbury, F.R.S.

OUTSIDE LONDON.

DUNDEE.

Wednesday, November 12th, at 4 p.m.

Lecture on "The Crystallisation of Graphite," by Professor H. L. Riley, D.Sc., to be held in the Chemistry Department, University College.

EDINBURGH.

Tuesday, November 11th, at 6.30 p.m.

Lecture on "The Crystallisation of Graphite," by Professor H. L. Riley, D.Sc. Joint meeting with the Edinburgh University Chemical Society and the Local Sections of the Institute of Chemistry and the Society of Chemical Industry. To be held in the Biochemical Lecture Theatre, Teviot Place.

LEEDS.

Monday, October 13th, at 6.30 p.m.

Lecture on "Analysis of Molecular Structure by X-Ray Methods," by Dr. J. Monteath Robertson. To be held in the General Lecture Theatre of the University.

LIVERPOOL.

Thursday, November 13th, at 3 p.m.

Lecture on "Some Recent Developments in the Experimental Study of Animal Fats," by Professor T. P. Hilditch, D.Sc., F.I.C. To be held in the Muspratt Lecture Theatre of the University.

NORTH WALES.

Friday, November 7th, at 5.15 p.m.

Lecture on "The Hemp Drugs," by Professor A. R. Todd, D.Sc., Ph.D. Joint meeting with the University College of North Wales, Bangor, Chemical Society, to be held in the Chemistry Lecture Theatre of the College.

NOTTINGHAM.

Saturday, November 15th, at 3 p.m.

Eighth Hugo Müller Lecture entitled: "Some Aspects of Algal Chemistry," by Professor I. M. Heilbron, D.S.O., D.Sc., F.R.S., to be held in the Chemistry Lecture Theatre, University College, Shakespeare Street.

SHEFFIELD.

Friday, November 21st, at 5.30 p.m.

Lecture on "Polymers," by Professor H. W. Melville, Ph.D., D.Sc., F.R.S. Joint meeting with the Sheffield University Chemical Society, to be held in the Chemistry Lecture Theatre of the University.

PROCEEDINGS

OF THE

CHEMICAL SOCIETY.

OFFICIAL ANNOUNCEMENTS

DEATHS.

The loss sustained by the Society through the death of the President, Professor James C. Philip, was announced in the Proceedings for August. At their meeting on September 18th, the Council passed the following resolution, which has been communicated to Mrs. Philip :

“ The Officers and Council of the Chemical Society have heard with profound sorrow of the death, on the 6th August, of their distinguished President, Professor James Charles Philip. Throughout the past 30 years he had a unique record of faithful service to the Society having been successively Member of the Council, Honorary Secretary, Vice-President, Chairman of the Publication Committee and Chairman of the Bureau of Chemical Abstracts.

“ They desire to express their grateful admiration of his achievements not only as a scientist and as a tireless worker for education and in the Government Service, but also as a man much loved and respected by all who came in contact with him.

“ They recognize that his death will be felt as a grievous loss by everyone who has the welfare of the Society and of the science of Chemistry at heart.

“ The Council offer their deepest sympathy to Mrs. Philip.”

The Council regret to announce the death on August 14th of Professor Paul Sabatier (Honorary Fellow). They have passed the following resolution :

“ The Officers and Council of the Chemical Society have learned with profound sorrow of the death on August 14th of Professor Paul Sabatier, who was elected an Honorary Fellow of the Chemical Society in March 1920. They deplore the loss of their distinguished colleague.

“ They record their high appreciation of the signal services which he, as one of the founders of the modern developments of catalysis, has rendered to the Science of Chemistry, services to which he devoted a life-long study and for which he was awarded in 1912 the high honour of the Nobel Prize.

“ They regret that circumstances do not at present permit them to convey to his relatives and colleagues in France their deep sympathy with them in the irreparable loss which they, in common with Chemists throughout the world, have sustained.”

Intimation of the following deaths has also been received, and the sympathy of the Council has been conveyed to the relatives :

	Elected.	Died.
Septimus Dyson	1883	September 13th.
Robert B. Floris	1892	June 12th.
Arthur G. Green	1885	September 12th.
James Kentish	1941	August 13th.
William Macnab	1890	September 2nd.
William R. Ormandy	1890	September 11th.

PRESIDENT.

The Council have the pleasure to announce that Dr. W. H. Mills, M.A., F.R.S., has accepted, until the next Annual General Meeting, the office of President.

RESEARCH GRANT.

The Council have made a grant of £10 to Professor F. Challenger for a research on "Preparation of certain Thiocyanates."

ADVISORY RESEARCH COUNCIL.

Dr. J. C. Smith has been appointed as a Member of the Advisory Research Council.

FELLOWSHIP.

The following 73 new Fellows have been elected :

Charles Gordon Addingley.	Donald Rees Llewellyn.
Arthur Nicholls Ainsworth.	Henry Lovett.
Donald Atherton.	George McLaren.
Alfred Thomas Symonds Babb.	George Torquil Macleod.
Charles Gerald Barlow.	Lionel Maddison.
Charles Thomas Beer.	Frank Button Meech.
Edmund Baron Bennion.	Walter George Messenger.
Joseph Booton.	Gordon Daw Miles.
Ralph Walton Bost.	Cecil Arthur Perry.
Eric Chadwick.	John Maddison Phillipson.
Douglas Clark.	Hughe Boynton Rayner.
Frank Cooke.	William Bateman Reeson.
Frank Harriss Cotton.	William Walter Reid.
Robert Archibald Cowin.	George David Reynolds.
Charles Edward Dalgliesh.	John Roach.
Alexander Linton Davidson.	Walter Charles Joseph Ross.
John Gilbert Davis.	Abraham Samson.
John Douglas Downer.	Robert Sandler.
Norman Ferry.	Leslie Henry Wallis Savage.
Joachim Friedrich August Gerdes.	Francis Leslie Selfe.
Malcolm Gillies.	Gershon Shaffer.
Reginald Edwin Goddard.	Ralph Austin Smith.
Harry Stanley Greenwood.	Laurence Walter Turner.
Herbert Donald Greenwood.	Arthur Tyrrell.
Norman Hulton Haddock.	Arthur Hill Waddington.
Arnold Schofield Haigh.	Reginald Carrington Walthew.
Charles Henry Hands.	Charles Ernest Webb.
Clifford Stuchbery Harper.	Harold Frank Philip Webber.
Wilfred Hartley.	John Henry Wilkinson.
Harold Wilton Hewis.	Walter Lloyd Willey.
Frank Holden.	Alfred Peter Wilson.
Harold Hamilton Hutt.	Donald Cumming Wilson.
S. Edward Jolly.	Walter Wilson.
Idwal George Jones.	Stanley George Arthur Wise.
Robert Owen Jones.	Cecil Edgar Wiseman.
Andreas Krajkeman.	Leonard Albert Wiseman.
Malcolm Littlejohn.	

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 Monday, October 13th. Such objections will be treated as confidential. The forms of application are displayed in the Library.)

Adam, Hector Robert, B.Sc. (Aberdeen), F.I.C. British. The Laboratory, Government Gold Mining Areas, Ltd., P.O. State Mines, Transvaal, South Africa. Chief Chemist.

Signed by : Henry Stephen, J. McCrae, H. R. Raikes.

Barton, Leonard Henry Greenwood, B.Sc. (Lond.), F.I.C. British. The Spinney, Lextow Gardens, S.W. 12. Ministry of Food, Scientific Assistant.

Signed by : J. C. Drummond, A. L. Bacharach, Wm. Wardlaw.

- Cachia, Vincent Anthony**, B.Sc. (Lond.), A.I.C. British. c/o Crosse and Blackwell (S.A.), Ltd., P.O. Box 1605, Cape Town, S. Africa. Works chemist and manager (foodstuffs).
Signed by : E. Newbery, P. C. Carman, W. S. Rapson.
- Cohen, Horace Goldsmith**. Private research during last war, 1918, was engaged on poison gas research. British. 15, Pitmaston Court, Goodby Road, Moseley, Birmingham, 13. Managing Director.
Signed by : J. S. Jennings, Francis G. Belton, Stanley Peat.
- *Compston, Malcolm Ridyard**, B.Sc. (Reading). British. 22, The Crescent, Macclesfield. Analytical Chemist.
Signed by : H. Bassett, D. Roy Maxted, Thomas H. Goodwin.
- Duerden, Alan**, B.Sc.Hons. and M.Sc. (Manc.), A.I.C. British. 29, Station Road, Reddish, Stockport. Research Chemist.
Signed by : Colin Campbell, Fred Fairbrother, F. S. Spring.
- Evans, Frank Sydney**, Member of Soc. Chem. Ind., Member of Inst. of Fuel. British. 30, Cliff End, Purley. Technical Representative on Coke and other By-products to South Metropolitan Gas Company.
Signed by : E. F. Armstrong, E. V. Evans, F. M. Potter.
- Griffiths, William Victor**, B.Sc. (Wales), A.I.C. British. c/o Williams and Woods, Ltd., Parnell Street, Dublin. Factory Manager—Williams and Woods, Ltd.; Director—Crosse and Blackwell (Ireland), Ltd.
Signed by : T. S. Wheeler, J. W. Parkes, A. G. G. Leonard, T. J. Nolan.
- Hay, Thomas Congalton**, B.Sc. (Lond.), Formerly assistant in City Analyst' Laboratory, Edinburgh, for 4 years. British. 19, The Crescent, Holmer, Hereford. Lecturer, Crumlin Technical College, Monmouthshire.
Signed by : J. E. Coates, E. E. Ayling, L. E. Hinkel.
- Kidney, Allan James**, B.Sc. and Ph.D. (Lond.), A.R.C.S., A.I.C. British. Inglenook, Newforge Lane, Belfast. Chief Chemist.
Signed by : Henry Wren, G. S. Robertson, T. E. Ellison.
- Le May, Cecil Hugh**, B.Sc., Member of Soc. Chem. Ind. English. 40, Berkeley Square, W. 1. Manager and Chief Technical Engineer.
Signed by : S. Bowrey, F. P. Dunn, C. B. Wingfield.
- Lee, Herman**, B.Sc. (Lond.), F.I.C. British. 81, Whitchurch Gardens, Edgware. Chief Chemist, Aerated Bread Company and associated Companies.
Signed by : C. L. Claremont, R. Leslie Collett, J. J. Fox.
- Mole, Jessie Dorehill Crampton**, B.Sc., Ph.D. (Lond.). British. 17, Norman Road, Runcorn. Research Chemist.
Signed by : Leslie J. Burrage, Mary Eynon Miller, O. D. Mooney.
- Pal, Nicholas**, Industrial chemist and paint research worker. Hungarian. Grosvenor House, Park Lane, W. Managing Director.
Signed by : K. Wallersteiner, L. A. Jordan, H. de Laszlo.
- Patient, David James**, A.I.C. British. Woodcote, Elm Park Road, Pinner. Chief Chemist to a firm of Food Manufacturers.
Signed by : Eric C. Wood, W. B. Adams, Percy Egerton.
- *Pearman, Roy William**, B.Sc., A.R.C.S. (Lond.). British. 149, Herbert Road, Plumstead, S.E. 18. Research Chemist.
Signed by : E. R. H. Jones, J. N. Sugden, A. H. Cook.
- Roberts, William Henry**, M.Sc. (Vict. and L'pool), F.I.C. British. City Analyst's Laboratories, Mount Pleasant, Liverpool, 3. City Analyst for Liverpool; Public Analyst for Barrow-in-Furness, Birkenhead, Blackburn, Bootle, Crosby, Kendal, Preston and Southport and Professor of Public Health Chemistry in the University of Liverpool.
Signed by : J. J. Fox, T. P. Hilditch, Francis H. Carr, L. A. Jordan.
- Storey, Ralph Charles**, Ph.D., M.Sc. (Leeds), F.I.C. British. 18 Gledhow Park Crescent, Chapel Allerton, Leeds, 7. Chief Chemist and Technical Manager.
Signed by : Frederick M. Rowe, Arnold T. Peters, H. Burton.
- Wark, John Jeffrey**, A.I.C. British. Pladda, 1, Aldborough Spur, Slough. Chemist.
Signed by : A. G. Pollard, N. W. Hanson, H. Brunner.

***Whitehead, Richard Leslie St. Dalmas**, B.A. (Oxon). British. 43, Chalfont Road, Oxford. Research Chemist.

Signed by : Ronald P. Bell, F. E. King, W. Baker.

Wokes, Frank, Ph.D. (Lond.), B.Sc. (L'pool), F.I.C., Ph.C. British. King's Langley, Herts. Director of Research.

Signed by : Wilfred H. Linnell, R. A. Morton, Katharine H. Coward, E. Gabriel Jones.

Wood, Margaret, B.Sc. (Lond.), A.I.C., Associate of Heriot Watt College. British. 21, Marlborough Road, Broomhill, Sheffield, 10. Works Chemist.

Signed by : R. F. Hunter, Percy N. Williams, R. J. Munro.

UNDER SPECIAL PROVISION APPERTAINING TO APPLICANTS RESIDENT ABROAD :

Cook, Elton Straus, B.A. (Oberlin), Ph.D. (Yale). American. Institutum Divi Thomæ, 1840, Madison Road, Cincinnati, Ohio. Research Professor in Chemistry and Biochemistry.

Signed by : John R. Loofborrow.

Foreman, Emanuel Leon, B.S., University of Illinois, 1930; M.S. Institute of Paper Chemistry, 1931, Ph.D. University of Wisconsin, 1940. Member of The American Chemical Society. U.S.A. Citizen. 3008, N. Maryland Avenue, Milwaukee, Wisconsin. Director of Chemical Research, The Lakeside Laboratories, Inc., 4574, N. Port Washington Road, Milwaukee, Wisconsin.

Signed by : E. M. McElvain.

Jack, John Will, B.Sc. (Lond.), A.I.C. British. c/o Searles, Ltd., Great Brak River, Cape Province, S. Africa. Chemist to Searles, Ltd., Tanners.

Signed by : W. Pugh, W. F. Barker.

* Reduced Annual Subscriptions.

PAPERS RECEIVED

List of papers received between August 20th and September 19th, 1941. (This list does not include the titles of papers which have been read at a Scientific Meeting or which have appeared in the *Journal*.)

"Studies in aromatic substitution. Part IV. The action of fuming nitric acid on 3-fluoroanisole and on the 3-fluoro-2-, -4-, and -6-nitroanisoles." By H. H. HODGSON and J. NIXON.

"Experiments on the formation of mixed osazones and their anhydrides." By E. E. PERCIVAL and E. G. V. PERCIVAL.

"The electrical conductivities of aqueous solutions of some phenanthrenesulphonic acids." By T. R. BOLAM and J. HOPE.

"The equilibrium between cuprous and cupric compounds in presence of metallic copper." By J. E. B. RANGLES.

"The methylation of primary aromatic amines, organic disulphides and sodium sulphite by means of betaine." By F. CHALLENGER, P. TAYLOR, and (in part) B. TAYLOR.

"A synthesis of ethyl 1-methylpyrrolidine-2-acetate." By F. E. KING, J. W. CLIFTON, and H. T. OPENSHAW.

"A preparation of 8-hydroxyquinoline." By F. E. KING and J. A. SHERRED.

"Note on oestrone azobenzene-4-carboxylate." By F. BERGEL and A. COHEN.

"The anti-catalase activity of thiocarbamide." By D. DICKINSON.

"The viscosities of aqueous solutions of some phenanthrenesulphonic acids." By T. R. BOLAN and J. HOPE.

"Comments on the mechanisms of covalent bond fission." By W. A. WATERS.

"The standardisation of sodium thiosulphate with potassium dichromate." By B. DUDLEY SULLY.

ADDITIONS TO THE LIBRARY.

I. *Donations.*

ALUMINUM COMPANY OF AMERICA. Chemical analysis of aluminum. 2nd edition. New Kensington 1941. pp. iv + 120. ill. 50c. (*Recd.* 11/8/41.) From the Director.

BAKER, JOHN WILLIAM. An introduction to organic chemistry. London 1941. pp. viii + 177. ill. 3s. (*Recd.* 9/9/41.)
From the Author.

II. *By Purchase.*

GUGGENHEIM, M. Die biogenen Amine. 3rd edition. Basel 1940. pp. xvi + 564. \$11.25. (*Recd.* 8/8/41.)

HODGMAN, CHARLES D., and HOLMES, HARRY N. [Editors]. Handbook of chemistry and physics. 24th edition. Cleveland 1940. pp. xviii + 2564. (*Reference.*) \$4.

NATIONAL FIRE PROTECTION ASSOCIATION. Crosby-Fiske-Forster handbook of fire protection. 9th edition. General editor, ROBERT S. MOULTON. Boston, Mass. 1941. pp. xxiv + 1307. ill. 4.50. (*Recd.* 2/9/41.)

THE CHEMICAL SOCIETY

NOTICE OF FORTHCOMING SCIENTIFIC MEETINGS

IN LONDON.

Thursday, November 20th, at 2.30 p.m.

Lecture on "X-Rays and the Stoichiometry of the Proteins," by Dr. W. T. Astbury, F.R.S.

OUTSIDE LONDON.

DUNDEE.

Wednesday, November 12th, at 4 p.m.

Lecture on "The Crystallisation of Graphite," by Professor H. L. Riley, D.Sc., to be held in the Chemistry Department, University College.

EDINBURGH.

Tuesday, November 11th, at 6.30 p.m.

Lecture on "The Crystallisation of Graphite," by Professor H. L. Riley, D.Sc. Joint meeting with the Edinburgh University Chemical Society and the Local Sections of the Institute of Chemistry and the Society of Chemical Industry, to be held in the Biochemical Lecture Theatre, Teviot Place.

GLASGOW.

Friday, November 7th, at 7 p.m.

Lecture on "Forty Years of Optical Activity," by Professor T. S. Patterson, D.Sc., Ph.D., to be held in the Royal Technical College.

LIVERPOOL.

Thursday, November 13th, at 3 p.m.

Lecture on "Some Recent Developments in the Experimental Study of Animal Fats," by Professor T. P. Hilditch, D.Sc., F.I.C., to be held in the Muspratt Lecture Theatre of the University.

MANCHESTER.

Saturday, November 8th, at 2.15 p.m.

Lecture on "Long Molecules," by Dr. H. Hunter and D. F. Howitt. Joint meeting with the Institute of Chemistry and the Society of Chemical Industry, to be held in the Chemistry Lecture Theatre of the University.

NORTH WALES.

Friday, November 7th, at 5.15 p.m.

Lecture on "The Hemp Drugs," by Professor A. R. Todd, D.Sc., Ph.D. Joint meeting with the University College of North Wales Chemical Society, to be held in the Chemistry Lecture Theatre of the College.

NOTTINGHAM.

Saturday, November 15th, at 3 p.m.

Eighth Hugo Müller Lecture entitled: "Some Aspects of Algal Chemistry," by Professor I. M. Heilbron, D.S.O., D.Sc., F.R.S., to be held in the Chemistry Lecture Theatre, University College, Shakespeare Street.

SHEFFIELD.

Friday, November 21st, at 5.30 p.m.

Lecture on "Polymers," by Professor H. W. Melville, Ph.D., D.Sc., F.R.S. Joint meeting with the Sheffield University Chemical Society, to be held in the Chemistry Lecture Theatre of the University, Western Bank.

PROCEEDINGS
OF THE
CHEMICAL SOCIETY.

**Minutes of a
SCIENTIFIC MEETING**

held at Burlington House, London, W. 1, on Thursday, October 16th, 1941, at 2.30 p.m.

The PRESIDENT, DR. W. H. MILLS, M.A., Sc.D., F.R.S., was in the Chair, and welcomed the visitors present.

The minutes of the Scientific Meeting of June 19th, which were taken as read, were confirmed and signed.

FORMAL ADMISSION OF FELLOWS.

The following were formally admitted Fellows of the Chemical Society: L. N. Owen, Arthur Tyrrell, A. H. Soane, H. Dreyfus, J. H. Birkinshaw, A. E. Moors, D. M. Honeyman, W. Wilson, N. R. Campbell, A. H. Waddington, C. Alderson Smith, J. L. Stoves, and R. D. Wilson.

EIGHTH HUGO MÜLLER LECTURE.

After a brief introduction, the PRESIDENT called on Professor I. M. Heilbron to deliver the Eighth Hugo Müller Lecture, entitled "Some Aspects of Algal Chemistry."

A vote of thanks to the Lecturer, proposed by Professor J. W. Cook, was carried with acclamation.

OFFICIAL ANNOUNCEMENTS

CONGRATULATIONS.

The congratulations of the Society have been conveyed to Sir Robert Robinson, who has been awarded the Paracelsus Gold Medal by the Swiss Chemical Society.

DEATHS.

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

	Elected.	Died
Thomas R. Duggan	1884	September 30th.
John M. Edwards	1925	June 14th.
Robert J. Flintoff	1894	September 13th.
Frederic I. Richardson	1906	June 29th.

The sympathy of the Council has been conveyed to the relatives.

LEGACY.

The Council are glad to announce that a legacy of £1000, free of income tax, has been left to the Publications Fund by the late Mr. Robert H. Parker.

ACKNOWLEDGMENTS.

The thanks of the Council have been conveyed to Mr. George Bell for a gift of volumes of the *Journal*.

LOCAL REPRESENTATIVE FOR MANCHESTER.

The Council have received with regret the resignation of Dr. G. N. Burkhardt from the office of Local Representative for Manchester, and have conveyed their cordial thanks to him for the valuable services he has rendered to the Society. Dr. A. E. Gillam has been appointed to this office.

HARRISON MEMORIAL PRIZE.

Applications for the Harrison Memorial Prize must reach the President by December 1st, 1941.

SCHEME OF CO-OPERATION.

As a further stage in the Scheme of Co-operation, it has been decided to establish a central office to deal with the collection of joint subscriptions, the keeping of accounts, and the distribution of publications. Further particulars will be announced in due course. The Institute of Chemistry has agreed to collect the joint annual subscriptions for 1942 from those who are joint members of all three Bodies.

LIBRARY.

From November 24th to January 31st the Library will be open on weekdays from 10 a.m. to 4 p.m., except on Saturdays, when it is entirely closed.

FELLOWSHIP.

The following 26 candidates were elected Fellows on October 16th :

Hector Robert Adam.	Cecil Hugh Le May.
Leonard Henry Greenwood Barton.	Herman Lee.
Vincent Anthony Cachia.	Jessie Dorehill Crampton Mole.
Horace Goldsmith Cohen.	Nicholas Pal.
Malcolm Ridyard Compston.	David James Patient.
Elton Straus Cook.	Roy William Pearman.
Alan Duerden.	Jakob Pomeranic.
Frank Sydney Evans.	William Henry Roberts.
Emanuel Leon Foreman.	Ralph Charles Storey.
William Victor Griffiths.	John Jeffrey Wark.
Thomas Congalton Hay.	Richard Leslie St. Dalmas Whitehead.
John Will Jack.	Frank Wokes.
Allan James Kidney.	Margaret Wood.

MICROANALYSIS.

To meet the need of Fellows who are engaged in research work and require micro-analyses to be carried out, the Council have decided to prepare a list of those willing to undertake such professional work and to supply this list to Fellows who make application to the General Secretary. Those who wish their names to be included in this list of Analysts should communicate with Mr. S. E. Carr.

SUPPLIES OF LABORATORY CHEMICALS AND REAGENTS.

Rigorous economy in the use of all laboratory chemicals in Universities and Institutions and by all industrial users and consultants is an urgent necessity. Manufacturers are maintaining supplies to the fullest extent in the prevailing circumstances, but production adequate to meet all demands is handicapped by the scarcity of raw materials and many other factors.

To ensure regular supplies of essential laboratory chemicals a scheme has been discussed with the Raw Materials Department of the Ministry of Supply. In order to facilitate the operation of the proposed scheme, the Association of British Chemical Manufacturers, through its Assistant Secretary and Manager, Mr. Murdin Drake, has undertaken to collate records of the total quantities of the various chemicals required, so that the Ministry of Supply may be informed of these requirements.

A form, on which estimated requirements for the six months ending 31st March, 1942, are to be stated, can be obtained from the General Secretary of the Chemical Society. It covers the materials which experience shows are specially in demand, and space is provided for additional items likely to be needed in substantial quantities.

The quantities should be given as nearly as can be estimated and, if these quantities exceed to any appreciable extent the quantities purchased during the corresponding period in 1940-1941, consumers should state the reason for the increased demand. Chemists who do not purchase their own supplies should obtain these particulars from their purchasing organisations, or ensure that the organisations make a comprehensive return.

The information asked for is statistical; it will be regarded as strictly confidential and it will not bind any institution or individual to buy only the estimated quantity. It must be clearly understood that requirements of materials used in the manufacture of any product for sale are not to be included in the estimates.

The operation of this scheme will not in any way modify the procedure which may be in force from time to time under Statutory Rules and Orders relating to the supply and consumption of various chemicals. Usually, however, such Orders relate to quantities much in excess of those required in individual laboratories.

It will greatly assist the operation of the scheme if consumers will state the names of their usual suppliers.

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 Monday, November 17th. Such objections will be treated as confidential. The forms of application are displayed in the Library.)

- *Aikman, Alexander Russell**, Higher Certificate (Oxford and Cambridge). British. 33, Hamilton Street, Carlisle. Chemistry Student, Glasgow University.
Signed by : J. W. Cook, T. S. Patterson, C. Buchanan.
- Allen, Douglas Geoffrey Glenn**, M.A. (Cantab.), A.I.C. British. The Franklin Laboratory, 63/65, Des Voeux Road, Hong Kong. Analyst.
Signed by : J. J. Fox, R. Leslie Collett, B. A. Ellis.
- Bavin, Eric Morrison**, B.Sc. (Lond.), F.I.C. British. 19, Bonington Road, Mapperley, Nottingham. Pharmacologist.
Signed by : W. Frank Short, D. A. Peak, C. I. Brodrick.
- Billingham, Albert**, A.I.C., A.C.T.C. (Birm.). British. 55, Moat House Road, Alum Rock, Birmingham. Metallurgist and Chemist.
Signed by : J. Cooper Duff, J. Newton Friend, R. H. Vallance.
- Bone, Austin Roy**, M.Sc., D.I.C., A.R.C.S., A.I.C. Seven years in industry. British. 8, Ennismore Avenue, Greenford. Research Chemist.
Signed by : E. Lester Smith, F. A. Robinson, A. F. Lerrigs.
- Bradley, Alan Ludwig**, A.Met. (Sheffield). British. Hazeldene, The Baulk, Worksop. Chief Chemist to Brick and Lime Companies.
Signed by : C. H. Desch, Walter J. Rees, Arthur W. Chapman.
- Bradshaw, Geoffrey Gordon**, M.Sc. (Leeds), A.I.C. British. 38, Altar Drive, Heaton, Bradford. Chief Chemist.
Signed by : F. M. Rowe, John Barritt, Ralph C. Storey.
- Chater, William John Badenoch**, B.A.Hons. (Cantab.). British. 13, Lime Grove, Hoole, Chester. Research Chemist.
Signed by : R. G. W. Norrish, F. G. Mann, H. McCombie, F. S. Dainton.
- Cunliffe, William**, B.Sc. (Lond.), A.I.C. British. 32, Broadmead Road, Woodford Green. Works Chemist.
Signed by : Thomas McLachlan, R. Leslie Collett, A. Krajceman.
- Duggan, Creighton Shane Malet**, B.Sc. (Lond.), A.R.C.S., A.I.C. British. 83, South Croxted Road, West Dulwich, S.E. 21. Chemist in Experimental Laboratory.
Signed by : E. R. H. Jones, A. H. Cook, G. A. R. Kon.

- Ebbutt, Keith**, B.Sc. (Lond.). British. BM/KEB, London, W.C. 1. Analytical Chemist.
Signed by : G. K. Ingold, L. A. Warren, E. D. Hughes.
- ***Fairchild, Doris Laura**, B.Sc.Hons. (Lond.). English. 347, Bridgeman Street, Bolton.
Signed by : T. S. Moore, M. M. T. Plant, A. R. Murray.
- Finn, Cornelius Philip**, B.Sc. (Vict.), M.Sc. (Leeds), F.I.C. British. South Dene, South Kirby, nr. Pontefract. Manager of a Coke Oven Company.
Signed by : J. E. Coates, A. L. Roberts, H. J. Hodsmen.
- ***Gilbert, Peter Thomas**, in second year of B.Sc. Special Chemistry Course. British. 44, Norbins Road, Glastonbury. Undergraduate.
Signed by : H. T. S. Britton, L. L. Bircumshaw, R. King.
- Green, Brian Michael**, M.A. (Cantab.), F.I.C. British. Uplands, North Road, Berkhamsted. Chemist to a Tobacco Company.
Signed by : J. J. Fox, B. A. Ellis, R. Leslie Collett.
- Green, George Colman**, B.Sc.Hons. (Birm.), F.I.C. British. Warwick Road, Boreham Wood, Elstree. Manager of a Factory.
Signed by : S. R. Carter, R. H. Hopkins, F. W. Pinkard.
- ***Harding, Gordon Frank**. British. 42, Victoria Road, Summertown, Oxford. Research Student.
Signed by : S. G. P. Plant, W. Baker, L. J. Goldsworthy.
- ***Haynes, Leonard John**, Inter. B.Sc. (Lond.), Royal Scholarship. British. 66, High Street, Chatham. Student, at the Royal College of Science.
Signed by : H. V. A. Briscoe, H. J. Emeléus, J. N. Sugden.
- ***Hornby, Constance Elaine**, B.Sc. (Lond.). British. 53, Langley Drive, Wanstead, E. 11. Chemistry Mistress, County School for Girls.
Signed by : T. S. Moore, Millicent M. T. Plant, Elizabeth D. Johnson.
- Hornstein, Naftal Anatole**, Ph.D. (Berlin.). Russian. KO 4, Du Cane Court, Balham High Street, S.W. 17. Chemist to a Manufacturing firm.
Signed by : C. H. Spiers, A. Harvey, D. Burton.
- Jepson, Clarence**, M.Sc. (Manc.), F.I.C. British. 25, Derby Road, Urmston, Manchester. Resident Chemist to a Sewage Works.
Signed by : S. E. Melling, C. B. O. Jones, E. H. Sharples.
- Kerr, Robert**, M.Sc. and Ph.D. (L'pool). British. 52, Princes Gardens, Acton, W. 3. Research Chemist.
Signed by : Ernest S. Hedges, A. E. Bradfield, H. S. Rooke.
- Lane, Joseph Henry**, B.Sc. (Lond.), F.I.C. English. Thonlewai, Bath Road, Taplow. Analytical and Consulting Chemist.
Signed by : Lewis Eynon, George Taylor, H. E. Cox, C. A. Mitchell.
- Lorant, Stephan**, Dr. Med. (Budapest), Docent for Clinical Chemistry, University Prague. Czechoslovak. Henderson Hall, Kings College, Cochrane Park, Newcastle-upon-Tyne. Research worker.
Signed by : Wesley Cocker, G. R. Clemo, Richard Raper.
- ***Luft, Leon Emilian**, Student, Battersea Polytechnic. Polish. 84, Cambridge Street, S.W. 1.
Signed by : J. Kenyon, J. W. Smith, C. W. Davies.
- Lumsden, William Watt**, F.I.C. British. 21, South Crescent, Ardrossan. Managing Director of a Chemical Company.
Signed by : J. Weir, H. Picton, David Traill.
- Malcolm, James McLaren**, A.I.C. British. 3, Clunie Road, Glasgow, S.W. 2. Chemist to Food Manufacturers.
Signed by : M. M. J. Sutherland, F. J. Wilson, I. Vance Hopper.
- Mann, Harold Hart**, D.Sc. (Leeds), M.Sc. (Manc.), F.I.C. British. Husborne Crawley, Bletchley. Chemist in charge.
Signed by : E. J. Russell, F. Tattersfield, S. H. Harper.
- ***Maton, William Robert Edward**, B.Sc. (Wales). English. Broth Manor, Barmouth. Student at University.
Signed by : J. L. Simonsen, W. Rogie Angus, G. R. Ramage.

- *Norris, William Lake.** British. 42, Victoria Road, Oxford. Research Student.
Signed by : S. G. P. Plant, W. Baker, L. J. Goldsworthy.
- Powell, Arthur Dudley,** M.P.S., F.I.C. British. 64, Parkside, Derby Road, Beeston.
Chief Analyst to a Drug Company.
Signed by : Wilfred F. Elvidge, B. A. Bull, Norman H. Law.
- Price, Thomas Brychan,** B.Sc. (Wales), A.I.C. British. 30, Miskin Road, Dartford.
Schoolmaster.
Signed by : G. R. Martin, A. G. Maddock, Chas. A. Ray.
- Simmonds, George Herbert,** B.Sc.Hons. (Lond.). British. 42, Buxton Road, Erith.
Research Chemist.
Signed by : J. Kenyon, A. Houston, J. W. Smith.
- Stanley, Herbert Muggleton,** M.Sc. and Ph.D. (Birm.). British. Great Burgh, Epsom.
Research Chemist.
Signed by : J. Vargas Eyre, E. Horton, J. G. Maltby.
- Sylvester, Norman Darby,** M.Sc. (Birm.), A.I.C. British. 65, Boileau Road, Ealing,
W. 5. Analytical and Research Chemist.
Signed by : E. B. Hughes, W. G. Messenger, P. Bilham.
- Thomas, Richard,** D.Sc. (Wales), F.I.C. British. Roslyn, Spital Road, Bromborough.
Chief Research Chemist.
Signed by : R. F. Hunter, G. P. Gibson, W. J. G. Jones.
- Turner, Charles Frederick,** F.I.C. British. 1, Minehead Road, Aigburth, Liverpool, 17.
Public Analyst.
Signed by : T. P. Hilditch, G. P. Gibson, A. McGookin.
- Wilkins, Ernest John.** British. 12, Sidney Road, Bedford. Editor of Journal "British
Plastics and Moulded Products Trader."
Signed by : James Taylor, N. J. L. Megson, M. G. Church.
- Wilson, Thomas Alexander,** A.R.T.C. (Glasgow), M.P.S., M.I.Chem.E., F.I.C. British.
58, Prestwick Road, Ayr. Manager of Chemical Works.
Signed by : M. M. J. Sutherland, F. G. Wilson, A. B. Crawford.

**UNDER SPECIAL PROVISION APPERTAINING TO APPLICANTS RESIDENT
ABROAD.**

- Dana, Leo Isadore,** B.S. Mass. Institute of Technology, Ph.D. (Harvard). American.
E. Park Drive and Woodward Avenue, Tonawanda, New York. Director of
Laboratory.
Signed by : Foster Dee Snell.
- Erickson, J. L. E.,** M.A. (Rise Institute), M.Sc., Ph.D. (Harvard). American. Department
of Chemistry, Louisiana State University, Baton Rouge, Louisiana, U.S.A.
Professor of Chemistry, Louisiana State University.
Signed by : R. P. Linstead.

* Reduced Annual Subscription.

PAPERS RECEIVED

List of papers received between September 19th and October 18th, 1941. (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 associating effect of the hydrogen atom. Part IX. The N-H-N bond. Virtual tautomerism of the formazyl compounds." By L. HUNTER and C. B. ROBERTS.
- "The azo-group as a chelating group. Part V. Metallic derivatives of arylazo-oximes and of formazyl compounds." By L. HUNTER and C. B. ROBERTS.
- "Reaction velocities at low temperatures. Part IV. The ionisation of nitroethane at temperatures between -32° and $+20^{\circ}$." By R. P. BELL and A. D. NORRIS.

- “Electrolytic reduction of organic compounds. Part IV. Bimolecular products from sorbic acid at a solid and liquid gallium cathode. Analogy with overvoltage.” By K. B. WILSON and C. L. WILSON.
- “Cleavage of the ethylene linkage by the action of sulphur.” By A. SCHONBERG and MISS W. ASKER.
- “The identity of Hinsberg’s *o*-trithiosulphidobenzoic acid thioanhydride with Smiles and McClelland’s dithiobenzoyl.” By A. SCHÖNBERG and MISS A. MOSTAFA.
- “A chemotherapeutic comparison of the trypanocidal action of some aromatic diamidines.” By J. N. ASHLEY, H. J. BARBER, A. J. EWINS, G. NEWBERY, and A. D. H. SELF.
- “Carbohydrate sulphuric esters. Part II. The isolation of 3 : 6-anhydromethylhexosides from methylhexopyranoside sulphates.” By R. B. DUFF and E. G. V. PERCIVAL.
- “Sapogenins. Part XII. The position of the carboxyl group in certain triterpene acids.” By P. BILHAM, G. A. R. KON, and W. C. J. ROSS.
- “The action of chlorine on aryl thiocarbimides and the reactions of aryl *isocyanodichlorides*. Part II.” By G. M. DYSON and T. HARRINGTON.
- “Observations on the absorption spectra of terpenoid compounds. Part I. *iso*Thujone.” By A. E. GILLAM and T. F. WEST.
- “The effect of molecular environment on the absorption spectra of organic compounds in solution. Part II. $\alpha\beta$ -Unsaturated ketones.” By L. K. EVANS and A. E. GILLAM.
- “Attempts to find new antimalarials. Part XVIII. Derivatives of *m*-phenanthroline.” By W. O. KERMAK and W. WEBSTER.
- “A note on the rapid determination of copper in its alloys.” By P. M. FISK, A. LIBERMAN, and F. F. POLLAK.
- “The stable isotopes : An hypothesis of the composition and structure of the nuclei ; mass numbers. By H. D. K. DREW.
- “Rubber, polyisoprenes, and allied compounds. Part I. The synthesis of low-molecular polyisoprenes of the rubber and squalene types.” By E. H. FARMER and D. A. SUTTON. Note. “The autoxidisability of the alkyl groups in xylene.” By E. H. FARMER and E. S. NARRACOTT.
- “The course of autoxidation reactions in polyisoprene and allied compounds. Part I. The structure and reactive tendencies of the peroxides of simple olefins.” By E. H. FARMER and A. SUNDRALINGAM.
- “The course of autoxidation reactions in polyisoprenes and allied compounds. Part II. Hydroperoxidic structure and chain-scission in low-molecular polyisoprenes.” By E. H. FARMER and D. A. SUTTON.

ADDITIONS TO THE LIBRARY.

I. Donations.

CHALMERS, BRUCE, and QUARRELL, A. G. The physical examination of metals. Vol. II. Electrical methods. London 1941. pp. viii + 280. ill. 20s. net. (*Recd.* 16/10/41.)

From the Publishers : Messrs. Edward Arnold & Co.

WATSON, H. B. Modern theories of organic chemistry. 2nd edition. Oxford 1941. pp. viii + 267. ill. 17s. 6d. net. (*Recd.* 2/10/41.)

From the Author.

II. By Purchase.

BARRER, RICHARD M. Diffusion in and through solids. Cambridge 1941. pp. xiv + 464. ill. 30s. net. (*Recd.* 16/10/41.)

GLASSTONE, SAMUEL, LAIDLER, KEITH J.,

and EYRING, HENRY. The theory of rate processes : the kinetics of chemical reactions, viscosity, diffusion and electrochemical phenomena. New York 1941. pp. x + 611. ill. \$6. (*Recd.* 16/10/41.)

LYLE, OLIVER. Technology for sugar refinery workers. London 1941. pp. 401. ill. 15s. net. (*Recd.* 16/10/41.)

MARSH, J. T. Mercerising. London 1941. pp. xvi + 458. ill. 32s. net. (*Recd.* 16/10/41.)

PEARSE, R. W. B., and GAYDON, A. G. The identification of molecular spectra. London 1941. pp. viii + 221. ill. (*Reference.*) 42s. net.

WOODMAN, A. G. Food analysis : typical methods and the interpretation of results. 4th edition. New York 1941. pp. xii + 607. ill. \$4. (*Recd.* 16/10/41.)

November, 1941

THE CHEMICAL SOCIETY

NOTICE OF FORTHCOMING SCIENTIFIC MEETINGS

MEETINGS OUTSIDE LONDON.

DUNDEE.

Monday, January 19th, at 4 p.m.

Lecture on "The Structure of Films," by Dr. W. T. Astbury, F.R.S., to be held in the Chemistry Department, University College.

EDINBURGH.

Wednesday, January 28th, at 7.15 p.m.

Lecture on "Synthetical Investigations in the Natural Resin Field," by Professor R. D. Haworth, D.Sc., Ph.D., Joint Meeting with the Local Sections of the Institute of Chemistry and the Society of Chemical Industry, to be held in the North British Station Hotel.

PROCEEDINGS

OF THE

CHEMICAL SOCIETY.

MEETINGS OUTSIDE LONDON.

LECTURE AT BANGOR, NOVEMBER 7th.

A joint meeting with the Chemical Society of the University College of North Wales, Bangor, was held in the Chemistry Lecture Theatre of the College at 5.15 p.m. on November 7th, 1941, with Mr. D. J. Bennett in the Chair.

Prof. A. R. Todd discussed "The Hemp Drugs," including a description of the hemp plant, and dealt with the chemistry of cannabiniol and cannabidiol.

A cordial vote of thanks, proposed by Prof. J. L. Simonsen, seconded by Mr. E. Macdonald, was carried with acclamation.

LECTURE AT CARDIFF, NOVEMBER 1st.

A meeting of the Society was held jointly with the Cardiff Section of the Institute of Chemistry and the Food Group and South Wales Section of the Society of Chemical Industry at 3.15 p.m. on Saturday, November 1st, 1941, in the Physics Lecture Theatre, University College, Cathays Park, Cardiff, with Mr. F. S. Kernick, Chairman of the South Wales Section of the Society of Chemical Industry, in the Chair. Dr. Magnus Pyke delivered a lecture on "The Chemical Determination of Vitamins." With the aid of a number of striking experimental demonstrations, the lecturer showed that the principal vitamins, like most other chemical compounds, were amenable to chemical determination. Valuable details of procedure were described, and stress was laid on the need for employing these readily accessible methods as a means of estimating more adequately the nutritional value of foods.

After an interesting and instructive discussion, in which Messrs. S. Dixon, Williamson, Minor, and Lowe participated, a vote of thanks was proposed by Dr. Amos, seconded by Mr. S. Dixon, and enthusiastically carried. There were 98 persons present.

LECTURE AT EDINBURGH, NOVEMBER 11th.

A joint meeting of the Society with the Edinburgh University Chemical Society and the Edinburgh and East of Scotland sections of the Society of Chemical Industry and the Institute of Chemistry was held at 6.30 p.m., on November 11th, in the Biochemical Lecture Theatre, the University, Teviot Place, with Mr. J. W. Minnis, B.Sc., in the Chair. Professor H. L. Riley, D.Sc., gave a very interesting account of the structure and formation of "amorphous" carbon, with special reference to the graphite crystal lattice. Numerous X-ray photographs enhanced the value of this lecture on "The Crystallisation of Graphite," and after tributes to the lecturer by Dr. C. A. Beevers and Professor James Kendall, F.R.S., a hearty vote of thanks proposed by Mr. A. C. Docherty was carried with enthusiasm.

LECTURE AT GLASGOW, NOVEMBER 7th.

A meeting of the Society, in co-operation with the Local Sections of the Institute of Chemistry and the Society of Chemical Industry, was held at 7 p.m. on Friday, November 7th, in the Royal Technical College, with Professor J. W. Cook, F.R.S., in the Chair. Professor T. S. Patterson delivered a lecture entitled "Forty Years of Optical Activity." After referring to the investigations of Professor P. F. Frankland, to whom he was indebted

for his introduction to the subject, the Lecturer showed that tartaric esters exhibit a definite type of temperature-rotation curve which is displaced in a continuous manner by constitutional changes or alterations in solvent or wave-length. The persistence of regularities, especially the accommodation of the data by H. E. Armstrong's "characteristic diagram," suggests that in compounds having more than one asymmetric centre these do not act independently.

A discussion followed, and a vote of thanks, proposed by Dr. T. Ewan, was carried with acclamation.

LECTURE AT LEEDS, OCTOBER 13th.

A meeting of the Leeds Area Local Section was held in the University of Leeds on Monday, October 13th, when Dr. J. Monteath Robertson delivered a lecture entitled "The Analysis of Molecular Structure by X-ray Methods." The Chair was taken by Prof. M. G. Evans, D.Sc. The lecturer indicated the earlier impact of X-ray methods in the elucidation of the atom arrangements in inorganic molecules, and then showed how its application to the known structures of organic chemistry adds precision to the picture and enables bond distances and electron distributions to be accurately mapped out. The subject thus provides an essential link between pure organic chemistry and the more recent advances in theoretical chemistry. Examples of recent analyses were given. An interesting discussion followed, and a cordial vote of thanks to the lecturer, proposed from the Chair, was carried with enthusiasm.

LECTURE AT LIVERPOOL, NOVEMBER 13th.

A meeting of the Society was held in the Muspratt Lecture Theatre of the University at 3 p.m. on November 13th, 1941, when Professor T. P. Hilditch delivered a Lecture entitled "Some Recent Developments in the Experimental Study of Animal Fats." The lecture was devoted mainly to a discussion of the specific characteristics of stearic-rich animal storage fats as represented by those of oxen, sheep, and pigs. Seven such fats (two from a sheep, two from a pig, and three from oxen or cows) have been investigated in detail during the past few years by a procedure in which the fats are first separated into three or more fractions of differing solubility in acetone, each fraction being then separately studied with regard to the proportions of its component acids and of fully-saturated glycerides and tri-C₁₈ glycerides which may be present. A comparatively detailed statement of the chief component glycerides of the whole fat is then reached.

The results in question give additional support to the suggestion, previously put forward from the Liverpool laboratory, that in the "stearic-rich" group of animal depot fats the characteristic glyceride structure is the result of hydrogenation of mixed oleo-glycerides pre-formed in the animal. In the group of seven fats under discussion a consistent series is obtained, irrespective of the particular animal concerned, if the fats are arranged in increasing order of stearic acid content. In this series the fats of lowest stearic acid content are richest, for example, in palmitodiolein; and, whilst this mixed glyceride and oleopalmitostearin are the predominating constituents of all the fats, the proportions of oleopalmitostearin and the completely saturated palmitodistearin progressively increase as the proportion of stearic acid in the whole fat is augmented. A similar relationship holds between the relative proportions of oleodipalmitin and dipalmitostearin throughout the group of fats of varying total unsaturation.

Reference was also made to the relative paucity of information as to the component acids of animal fats as compared with that on vegetable fats. Apart from fats of the more common domestic animals, little detailed information over a wide range of animal species is yet available. A small beginning has recently been undertaken in this field by determination of the component fatty acids of a few scattered species, including those of the kangaroo, wild cat, lion, giant panda, bear, and baboon. The data obtained were briefly discussed, and it was shown that on the one hand there were close resemblances in some cases (kangaroo, cat, lion) to the "stearic-rich" domestic animal type and, on the other hand, instances (panda, bear, baboon) in which a common animal fatty acid

was relatively deficient or in which unusually high proportions of certain normally minor component acids were observed. The chief value of these fragmentary results was considered to be the clear indication that study of fats from a much larger number of selected wild species will certainly lead to further generalisation of the relationship of depot fat composition with biological factors.

LECTURE AT MANCHESTER, NOVEMBER 8th.

A joint meeting of the Chemical Society, the Institute of Chemistry, and the Society of Chemical Industry was held at the Chemistry Lecture Theatre, Manchester University, on November 8th, 1941, at 2.15 p.m., when a joint lecture was delivered by Dr. H. Hunter and Mr. T. Howlett, on "Long Molecules." There was an excellent attendance. The lecture was devoted to a survey of the most recent original work on the molecular weight and associated physical properties and constants of such molecules as cellulose, and synthetic resin fibres, and it was illustrated by statistical tables. A lively discussion ensued, and afterwards votes of thanks were given to the lecturers. Sir Robert H. Pickard was in the Chair.

LECTURE AT NOTTINGHAM, NOVEMBER 15th.

The Eighth Hugo Müller Lecture entitled "Some Aspects of Algal Chemistry," by Prof. I. M. Heilbron, was held on November 15th at 3 p.m., under the Chairmanship of Prof. J. Masson Gulland. The Chairman recalled the life and work of Hugo Müller, and expressed the pleasure of all present that Prof. Heilbron had been willing to come to Nottingham to deliver the lecture. The meeting was well attended, and the Society was pleased to welcome the presence of a number of biologists. A vote of thanks proposed by Dr. Short and seconded by Dr. Hunter was received with acclamation.

Minutes of a

SCIENTIFIC MEETING

held at Burlington House, London, W. 1, on Thursday, November 20th, 1941, at 2.30 p.m.

The President, Dr. W. H. MILLS, M.A., Sc.D., F.R.S., was in the Chair, and welcomed the visitors present.

The minutes of the Scientific Meeting of October 16th, were taken as read, and were confirmed and signed.

FORMAL ADMISSION OF FELLOWS.

The following were formally admitted Fellows of the Chemical Society: H. T. Lester, J. H. Wilkinson, H. Meyer, R. F. Nunn, R. G. Mathers, and P. Bilham.

LECTURE.

After a brief introduction, the PRESIDENT called on Dr. W. T. Astbury, F.R.S., to deliver his Lecture entitled "X-Rays and the Stoichiometry of the Proteins."

A vote of thanks to the Lecturer, proposed by Dr. J. M. ROBERTSON, was carried with acclamation.

OFFICIAL ANNOUNCEMENTS

DEATHS.

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

	Elected.	Died.
Albert J. Murphy	1901	August 26th, 1940.
Thomas B. Case	1895	November 10th.

The following message has been conveyed by the President to the All Soviet Union Chemical Society :

We, the President, Council and Fellows of the Chemical Society send greetings to you, our Colleagues in the All Soviet Union Chemical Society.

We express our unbounded admiration for your Country's courage and heroic fight against the power and might of the common foe, and our deep sympathy in the suffering and cruelties inflicted on your people by the invader.

Our two Countries stand together in this struggle, and we are confident that, with the united efforts of all those who realise the abyss to which Hitlerism is leading, tyranny will be overthrown and peace and justice prevail.

It is our earnest hope that out of this strife and sacrifice will emerge a new order in which the prostitution of Science to the destruction of mankind will cease and men and women engaged throughout the World in the pursuit of Science will work together in amity for the benefit of the human race.

ACKNOWLEDGMENTS.

The thanks of the Council have been conveyed to Dr. M. A. Whiteley for a gift of Vol. V of Thorpe's *Dictionary of Applied Chemistry*, and to Dr. R. Raper and Mr. G. Vivian Davies for gifts of volumes of the publications of the Society.

LIBRARY.

Until January 31st, 1942, the Library is open on weekdays from 10 a.m. to 4 p.m., except on Saturdays when it is entirely closed.

The Library will be closed on Christmas Day and Boxing Day.

FELLOWSHIP.

On November 20th the names of 60 Fellows were removed by the Council under the action of Bye-Law 15, 5 Fellows were reinstated and the following 41 candidates elected Fellows of the Society :

Alexander Russell Aikman.	Naftal Anatole Hornstein.
Douglas Geoffrey Glenn Allen.	Clarence Jepson.
Eric Morrison Bavin.	Robert Kerr.
Albert Billingham.	Joseph Henry Lane.
Austin Roy Bone.	Stephan Lorant.
Alan Ludwig Bradley.	Leon Emilian Luft.
Geoffrey Gordon Bradshaw.	William Watt Lumsden.
William John Badenoch Chater.	James McLaren Malcolm.
William Cunliffe.	Harold Hart Mann.
Leo Isadore Dana.	William Robert Edward Maton.
Creighton Shane Malet Duggan.	William Lake Norris.
Keith Ebbutt.	Arthur Dudley Powell.
J. L. E. Erickson.	Thomas Brychan Price.
Doris Laura Fairchild.	George Herbert Simmonds.
Cornelius Philip Finn.	Herbert Muggleton Stanley.
Peter Thomas Gilbert.	Norman Darby Sylvester.
Brian Michael Green.	Richard Thomas.
George Colman Green.	Charles Frederick Turner.
Gordon Frank Harding.	Ernest John Wilkins.
Leonard John Haynes.	Thomas Alexander Wilson.
Constance Elaine Hornby.	

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 Monday, December 15th. Such objections will be treated as confidential. The forms of application are displayed in the Library.*)

Alexander, Peter, B.Sc. (Lond.). British. 9, Cowcross Street, E.C. 1. Chemist.

Signed by : Gerald R. Shutt, W. Taylor, J. E. Wynfield Rhodes.

***Anstead, Douglas Frederick**, B.Sc. (Lond.). British. 5, Newbolt Avenue, Cheam. Student.

Signed by : C. K. Ingold, E. D. Hughes, Henry Terrey.

Ashworth, Sidney, B.Sc.Tech. (Manc.), A.M.C.T., A.I.C. British. Moss House, Heywood Hall Road, Heywood. Research Chemist.

Signed by : W. Francis, J. Booton, E. L. Dawson.

Baranger, Pierre, D.ès.S. (Paris), Professeur de chimie Ecole Polytechnique Paris. French. Director of "Centre de technologie scientifique et coloniale" of La France Libre.

Signed by : H. N. Rydon, W. A. Waters, S. A. Mumford.

Bremner, Alexander McColl, B.Sc. (Glas.), A.I.C. British. 17, Church Street, Dumbar-ton. Works Chemist.

Signed by : Mark F. C. Paige, T. S. Stevens, Robert W. G. Preston.

Bunn, Charles William, B.A., B.Sc. (Oxon.). British. Northwich, Cheshire. Research Chemist.

Signed by : L. M. Clark, P. J. Garner, H. C. Raine.

Burnley, Sydney, M.P.S. British. 72, Woodlands Road, Hull. Superintendent Pharmacist (Hospital), late Senior Pharmacist to Park Prewett Hospital, Basingstoke.

Signed by : R. H. Williams, E. E. Connolly, Alban J. Gait.

Clayson, Donald Herbert Frank, M.Sc. (Lond.), A.R.C.S., D.I.C., F.I.C. British. 2, Old Field Close, Stanmore. Supervising Chemist.

Signed by : E. B. Hughes, P. Bilham, G. E. Forstner.

Cole, Reginald Joseph, B.Sc. (Lond.), A.I.C. British. 23, Wentworth Close, Ditton Hill, Surbiton. Experimental Officer.

Signed by : S. Stevens, James M. Wright, G. W. McCrea.

Cousen, Arnold, Ph.D., M.Sc. (Lond.), A.R.C.S., A.I.C., F.S.G.T. British. 427, Prescott Road, St. Helens. Glass Technologist.

Signed by : S. Sugden, C. J. Peddle, A. A. Eldridge.

Dero, Eric, M.Sc.Tech. (Manc.), A.I.C. English. 269, Beacon Road, Loughborough. Chemist.

Signed by : G. Malcolm Dyson, C. Whitworth, W. S. Stevens.

Etheridge, William, B.Sc. (Leeds), A.I.C. British. 37, Baginton Road, Coventry. Research Chemist.

Signed by : Ernest E. Tallis, C. B. O. Jones, H. J. Hodsmen.

Faulds, James Michael, Inter B.Sc. (Lond.), 12 years Laboratory experience. British. 37, Parkville Road, Withington, Manchester. 20. Factory Manager and Chief Chemist.

Signed by : Charles Buchanan, Nathan Goldenberg, R. G. Fargher.

Fletcher, George Alexander, B.Sc.Hons. (Vict.), A.I.C. British. 145, Southborough Lane, Bromley. Chief Chemist and Works Manager.

Signed by : G. N. Burkhardt, Colin Campbell, F. Fairbrother.

***Fletcher, William Edmund**, B.Sc. (Lond.). British. 119, Church Road, New Clipstone, Nr. Mansfield. Research student at University College, Nottingham.

Signed by : J. Masson Gulland, John C. Roberts, F. R. Mumford.

Foster, Henry Stennett, F.I.C. British. Teesbridge Hotel, Bowesfield Lane, Stockton-on-Tees. Plant Manager.

Signed by : W. A. Southorn, P. Chorley, A. Shepherdson, D. Brightman.

France, John Walter. English. Fairlands, Valley Road, Thornhill, Dewsbury. Chemical Engineer.

Signed by : J. W. Baker, F. R. Goss, W. A. Wightman.

Francis, Marcus, B.Sc.Hons. and Ph.D. (Manc.), eight years academic research at the Universities of Frankfurt, Berlin, and Paris. Industrial Research experience in England; F.I.C. British. 209, Queens Road, Penkhull, Stoke-on-Trent. Director of Research.

Signed by : G. N. Burkhardt, Colin Campbell, G. B. M. Herbert, F. Fairbrother.

Halton, Philip, M.Sc. (Lond.), Ph.D. (Cantab.), F.I.C. British. Merlewood, Churchill Road, St. Albans. Research Chemist.

Signed by : E. J. Russell, H. Bassett, D. Roy Maxted.

Harris, Walter Sim, Managing Director and General Manager to firm of Manufacturing and Research Chemists. British. 32, Carrwood Road, Wilmslow.

Signed by : D. H. Hey, E. R. H. Jones, A. A. Eldridge, A. H. Cook.

Harrison, William Finmore, M.Sc. (Birm.), F.I.C. British. 18, Kingscote Road, Croydon. Assistant Chemist, Chiswick Works, London Passenger Transport Board.

Signed by : R. F. Reynolds, R. G. Green, B. A. Middleton.

Hoffert, Wilfred Herman, M.A., B.Sc. (Oxon.), F.I.C. British. 86, North End Road, Golders Green, N.W. 11. Chief Chemist.

Signed by : F. H. Garner, H. Hollings, E. B. Evans.

***Hood, Harold Malcolm,** B.Sc.Hons. (Dun.). British. 55, Highfield Road, Dartford. Research Chemist.

Signed by : G. R. Clemo, Wesley Cocker, Richard Raper.

Howson, Herbert George, B.Sc. (Lond.), F.I.C., F.Inst.Pet. British. 27, College Road North, Blundellsands, Liverpool, 23. Inspector in Alkali Works.

Signed by : T. P. Hilditch, H. C. Applebee, R. R. Butler, A. E. Findley.

Humphriss, Eric Lewis Enoch, Ordinary National Certificate (1925), Higher Ditto (1928), Chemistry, etc. Central Technical College, Liverpool, A.I.C. British. 82, Linkstor Road, Woolton, Liverpool. Chief Chemist and Bacteriologist.

Signed by : John F. Loach, R. A. Morton, T. P. Hilditch.

Jensen, Harold Rupert, M.Sc. (L'pool), F.I.C. British. 27, North Drive, Wallasey. Technologist and Consultant—Foods, drugs.

Signed by : A. McGookin, H. P. Shilston, Wm. Doran.

***Jepson, John Buchan,** Scholar of Sidney Sussex College (Natural Sciences). British. 17, Leyland Road, Nuneaton. Student for Natural Science Tripos (Chemistry, etc.).

Signed by : C. Brown, B. A. Kilby, F. S. Dainton.

***Johnson, Eric Leslie,** B.Sc.Hons. (Leeds). British. 25, Broomfield Crescent, Leeds, 6. Research Student.

Signed by : Frederick M. Rowe, Arnold T. Peters, J. W. Baker, E. G. Parry.

Jones, Frank Raymond, M.C., M.Sc. (Birm.), A.I.C. British. 8, Conway Close, The Chase, Stanmore. Research Chemist.

Signed by : E. B. Hughes, C. H. F. Fuller, G. E. Forstner.

Jones, John Henry, Ph.D. and B.Sc.Hons. (L'pool), A.I.C., Le Blanc Medal, 1922. British. Officer in charge, Northumberland and Durham Coal Survey, Department of Scientific and Industrial Research.

Signed by : Richard Raper, G. R. Clemo, H. L. Riley.

Jones, Richard Arthur, A.C.G.F.C., F.I.C. British. 4, Enstin Road, Eltham, S.E. 9. Chemist.

Signed by : E. Stanley Hiscocks, B. A. Ellis, J. W. Pooley.

***Kaiser, Franz Paul,** 2nd M.B. (Vienna), Inter B.Sc. (Lond.). Austrian. 11, Rawlinson Road, Oxford. Serving in H.M. Forces. In spare time reading for B.Sc. Special (Chemistry) Examination with aid of External Advisory Service and Birkbeck College.

Signed by : Wm. Wardlaw, D. J. G. Ives, F. Barrow.

***Law, Barbara Wharton.** British. Somerville College, Oxford. Undergraduate.

Signed by : S. W. Hawkins, R. Branston Williams, D. M. Hodgkin.

Liegeois, Henri Laurent McDonald (commonly known as H. L. McDonald). Examinations passed in Philosophy, Theology and Canon Law as prescribed by the Archdiocese of Cardiff 1922 to 1926. British. 150, Wainbody Avenue, Coventry. Company Executive; Technical adviser to Messrs. Macdonald & Co., Coventry.

Signed by : W. S. Simpson, J. B. Stocks, F. V. Wells.

Macfarlane, William Wylie, A.I.C. British. Tollcross, Glasgow, E. 2. Biscuit Manufacturer.

Signed by : I. M. Heilbron, W. J. Skilling, J. G. Duncan.

***McOmie, John Frederick William**. Reading for Honours Degree in Chemistry. British. Exeter College, Oxford. Undergraduate at Exeter College.

Signed by : Ronald P. Bell, J. H. Wolfenden, W. Baker.

Matthew, Cynthia Mary, B.Sc. (Lond.). British. 48, Greencroft Gardens, N.W. 6. Works Chemist.

Signed by : Norman A. C. Friend, Allan Domleo, William A. Dickie.

***Maw, George Alexander**, B.Sc.Hons. (Lond.). British. 94, Shirland Road, Maida Hill, W. 9. Research Student.

Signed by : C. K. Ingold, E. D. Hughes, I. Dostrovsky.

Moore, Terence, Certificates for Bacteriology and Chemistry of Foodstuffs. British. 62, Girtton Avenue, Kingsbury, N.W. 9. Analytical Food Research Chemist.

Signed by : H. E. Cox, E. B. Anderson, W. R. Maxwell.

Muirhead, George Stanley, (Three years experience of the analysis of dyestuffs and of dye-stuff intermediates. Two years experience of plant control producing Rhodamine type, azo and other type colours at the Clayton Aniline Co., Manchester). British. Handside Farm House, Handside Lane, Welwyn Garden City. Works Control Chemist.

Signed by : F. Bergel, G. V. James, A. Cohen.

Parrish, Percy, F.I.C., M.I.Chem.E., M.I.Gas.Eng., F.I.I.A. British. Parkside, 2, Westcombe Park Road, Blackheath, S.E. 3. Manager of Chemical Works.

Signed by : Francis H. Carr, Louis A. Jordan, E. F. Armstrong.

Pearson, Gavin Duffus, B.Sc.Hons. (Aberdeen). British. 160, Skere Street, Aberdeen. Refinery Operator (Chemist).

Signed by : Alex. Findlay, T. H. Reade, R. B. Strathdee.

Rains, Harry Gascoyne, M.Sc., Ph.D. (Sheffield), F.I.C. British. 35, Hillcrest Road, Loughton. Chief Chemist, Messrs. Jenson and Nicholson, Ltd., Stratford, E. 15.

Signed by : F. C. J. Ruzicka, H. W. Keenan, J. O. Cutter.

Robson, Stanley, M.Sc. (Dun.), D.I.C. (Lond.), M.I.Chem.E., M.I.M.M., A.I.C. English. 57, Queen's Court, Bristol, 8. Works Director.

Signed by : A. Sanders, E. B. Maxted, E. L. Hirst.

Roscoe, William Hilton, M.Sc. (Vict.), A.I.C. British. 63, Lakeside Avenue, Gt. Lever, Bolton. Research Chemist.

Signed by : F. C. Wood, G. N. Burkhardt, R. N. Johnson.

Rymill, Frederick Ernest, B.Sc. (Lond.), A.I.C. British. 441, London Road, Appleton, Nr. Warrington. Works Manager and Chemist, Evan's Biological Institute, Runcorn.

Signed by : W. J. C. Dyke, A. E. Findley, R. R. Butler, Leslie V. Cocks, T. P. Hilditch.

Scott, Percy Douglas, M.Sc. (Dun.), A.I.C. British. 1, South View, Fatfield, Co. Durham. Assistant Manager.

Signed by : H. L. Riley, H. E. Blayden, J. Gordon.

Shilling, William Henry, M.Sc. (Lond.), A.I.C. British. 48, Byne Road, Sydenham, S.E. 26. Works Chemist.

Signed by : J. J. Fox, L. P. Walls, R. Leslie Collett.

Smith, Charles George, Ph.D., B.Sc. (Lond.), F.I.C. British. 7, Mayfield Avenue, Woodford Green. Lecturer in Chemistry, South East Essex Technical College.

Signed by : J. J. Fox, R. Leslie Collett, G. Roche Lynch.

Speakman, John Bamber, D.Sc. (Manc.), F.I.C., F.T.I. British. Department of Textile Industries, The University, Leeds, 2. Professor of Textile Industries.

Signed by : Frederick M. Rowe, Norman H. Chamberlain, Frederick Challenger.

Stafford, John, M.Sc. (Manc.), A.I.C. British. 12, Nelson Square, Bolton. Analytical and Consulting Chemist (Metallurgy).

Signed by : G. N. Burkhardt, J. B. M. Herbert, Colin Campbell.

Steel, Peter, B.Sc.Hons. (Lond.), A.I.C. British. 19, Royal Mint Street, E. 1. Analytical and Research Chemist to N. M. Rothschild and Sons.

Signed by : Geoffrey H. Cheesman, H. Houlston Morgan, John Phelps.

Taylor, Norman, B.Sc.Hons. (Manc.), F.I.C., F.A.C.I. English. 380, Collins Street, Melbourne, Australia. Technical Director.

Signed by : J. J. Fox, R. Leslie Collett, J. R. Nicholls.

Waldmeyer, Trevor, B.Sc. (Lond.), A.I.C. British. 37, Woodlands Road, Sittingbourne. Chemist and Manager of a Sewage Works.

Signed by : J. Howard Lindsay, E. B. R. Prideaux, John C. Roberts.

Williams, William George, B.Sc., Ph.D. (Lond.), A.I.C. British. Woolwich, S.E. 18. Research Chemist.

Signed by : R. C. Farmer, F. Holden, A. Marshall, H. T. S. Britton.

Wilson, Frederick Ernest, B.Sc. (Lond.), A.I.C. British. Caerwent, Nr. Chepstow. Research Chemist.

Signed by : H. N. Read, W. T. H. Williamson, N. M. Cullinane.

UNDER SPECIAL PROVISION APPERTAINING TO APPLICANTS RESIDENT ABROAD.

Abbott, Walter Edgar, M.Sc. (Lond.), A.R.C.Sc.I., F.I.C. British. c/o Public Works Department, Shanghai Municipal Council, Shanghai. Chief Chemist, Public Works Department, Shanghai Municipal Council.

Signed by : R. Leslie Collett.

Clark, James Frederick, M.Sc. (Lond.), D.I.C., A.R.C.S., F.I.C. British. Analyst's Department, Municipal Offices, Singapore, S.S. Deputy Municipal Analyst.

Signed by : R. Leslie Collett.

Collins, Edward, M.A. (Cantab.), F.I.C. British. Government Laboratory, Le Reduit, Mauritius. Government Chemist, Mauritius.

Signed by : Louis Baissac.

Davis, Samuel Jackson, M.A., Emory University (U.S.A.), A.M. (Harvard), Member of the American Chemical Society. American. Callaway Mills, La Grange, Georgia. Research Chemist.

Signed by : R. P. Linstead.

Dunn, John Short, B.Sc.Hons. (Lond.), B.Sc. (Reading), A.I.C. British. Public Works Department, Kumasi, Gold Coast. Government Chemist.

Signed by : H. Bassett, D. Roy Maxted.

Neiger, Richard, Dr. (Prague), Ingenieur (Technical High School, Prague), Czech. 1, Park Terrace, Maryport. Chief Chemist.

Signed by : Gerald Druce.

PAPERS RECEIVED

List of papers received between October 18th and November 20th, 1941. (This list does not include the titles of papers which have been read at a Scientific Meeting or which have appeared in the *Journal*.)

- "*Cannabis indica*. Part VIII. Some further analogues of tetrahydrocannabinol." By A. R. TODD, S. WILKINSON, A. D. MACDONALD, and G. WOOLFE.
- "The triterpene group. Part IX. On the constitution of brein and maniladiol." By (Miss) I. M. MORICE and J. C. E. SIMPSON.
- "Reactions of (+)- and (-)- α -ethyl- γ -methylallyl alcohols and their derivatives." By R. S. AIRS, M. P. BALFE, and J. KENYON.
- "The amino-derivatives of pentaerythritol. Part II. The thermal decomposition of the tetrahydrochlorides of tetrakisethylaminomethane and tetrakisdimethylaminomethane." By G. M. GIBSON, J. HARLEY-MASON, A. LITHERLAND, and F. G. MANN.
- "The amino-derivatives of pentaerythritol. Part III. The formation and thermal decomposition of some quaternary salts of tetrakisdimethylaminomethane." By G. M. GIBSON and F. G. MANN.
- "Preparation of some *p*-alkyl-substituted benzoic acids." By A. ZAKI and H. FAHIM.
- "The crotonic acid series. Part II. Nitrogen derivatives of α -phenylcrotonic acid." By M. A. PHILLIPS.
- "The constitution of yeast mannan." By W. N. HAWORTH, R. L. HEATH, and S. PEAT.
- "The polysaccharide associated with β -amylase." By L. H. FORD and S. PEAT.
- "Studies in the diazotisation and nitrosation of amines. Part V. The effect of lowering the dielectric constant of the reaction mixture." By J. C. EARL and N. G. HILLS.
- "Studies of seed mucilages. Part II. The seed mucilage of *Plantago arenaria*." By W. A. G. NELSON and E. G. V. PERCIVAL.
- "The kinetics of the reaction between copper and iodine in aqueous (KI) solution. Part I." By L. L. BIRCUMSHAW and M. H. EVERDELL.
- "Mechanism of aromatic side-chain reactions with special reference to the polar effects of substituents. Part XI. The aldehydecyanohydrin reaction: Evidence for the mesomeric effects of alkyl groups." By J. W. BAKER and MISS M. L. HEMMING.
- "Some new organic derivatives of arsenic. The polyarseno-sulphides." By K. J. HAYDEN.
- "Some quaternary ammonium salts and their decomposition products." By A. ZAKI and H. FAHIM.
- "*o*-Methoxyphenylpropaldehyde and the pyran ring." By A. ZAKI and H. FAHIM.
- "Thiazinocyanines. Part I. Carbocyanines containing the 2:4-benzthiazine nucleus." By B. BEILENSON and (Miss) F. M. HAMER.
- "A method for the accurate analysis of gaseous mixtures." By C. H. BAMFORD and R. R. BALDWIN.
- "The melting points of toxicarol and of related compounds." By S. H. HARPER.
- "Constitution of the starch synthesised *in vitro* by the agency of potato phosphorylase." By W. N. HAWORTH, R. L. HEATH, and S. PEAT.
- "Peroxides derived from η -aldehydo-octioic acid and nonaldehyde: bis- α -hydroxy- ω -carboxyooctyl peroxide and bis- α -hydroxynonyl peroxide." By G. KING.
- "2-Iodobenzoquinone and its analogues." By H. H. HODGSON and D. E. NICHOLSON.
- "Periodic acid as a test for the constitution of polysaccharides." By V. C. T. BARRY, DILLON, and (Miss) W. McGETTRICK.
- "*Cannabis indica*. Part IX. The isolation of 3':4':5':6'-tetrahydrodibenzopyran derivatives from pulegone-ornicol and pulegone-olivitol condensation products. Synthesis of *d*-tetrahydrocannabinol." By G. LEAF, A. R. TODD, and S. WILKINSON.
-

ADDITIONS TO THE LIBRARY.

I. *Donations.*

BRITISH DRUG HOUSES, LTD. The B.D.H. book of organic reagents for analytical use. 8th edition. London 1941. pp. x + 155. 3s. 6d. net. (*Recd.* 20/10/41.)

From the Director.

PHARMACEUTICAL SOCIETY OF GREAT BRITAIN. Centenary commemoration, April 15th, 1941. London 1941. pp. 84. ill. (*Reference.*)

From the Society.

THORPE, [SIR EDWARD]. Dictionary of applied chemistry. 4th edition. Vol. V. By (the late) SIR JOCELYN FIELD THORPE and M. A. WHITELEY. London 1941. pp. xxiv + 610. ill. (*Reference.*) 70s. net.

From Dr. M. A. Whiteley, O.B.E.

II. *By purchase.*

HIGH POLYMERS. Vol. III. High polymeric reactions, their theory and practice. By H. MARK and R. RAFF. Translated from the manuscript by LUISE HARRIS WEISSBERGER and I. P. IRANY. New York 1941. pp. xiv + 476. ill. \$6.50. (*Recd.* 18/11/41.)

HILDITCH, T. P. The industrial chemistry of the fats and waxes. 2nd edition. London 1941. pp. xii + 532. 25s. net. (*Recd.* 21/10/41.)

JACOBS, MORRIS B. The analytical chemistry of industrial poisons, hazards and solvents. (Chemical analysis, Vol. I.) New York 1941. pp. xviii + 661. ill. \$7. (*Recd.* 18/11/41.)

UNITED STATES. *Manufacturing Chemists' Association*. Chemical facts and figures: annual statistics of the American chemical industry. Washington 1940. pp. iii + 219. ill. (*Reference.*) 75c.

WOLFE, HERBERT JAY. Printing and litho inks. 3rd edition. New York 1941. pp. xii + 411. ill. \$6. (*Recd.* 6/11/41.)

III. *Pamphlets.*

BRITISH STANDARDS INSTITUTION. B.S. 975: 1941. Density-composition tables for aqueous solutions of nitric acid for use in conjunction with British Standard density hydrometers. pp. 58.

— B.S. 976: 1941. Density-composition tables for aqueous solutions of hydrochloric acid for use in conjunction with British Standard density hydrometers. pp. 31.

FRÓES ABREU, S. O coco babacú: e o problema do combustivel. Rio de Janeiro 1940. pp. 94. ill.

GRASS DRIERS' ASSOCIATION. A report by a Committee on carotene estimation. [London 1941.] pp. 20.

INSTITUTE OF CHEMISTRY OF GREAT BRITAIN AND IRELAND. Chromatographic analysis. By A. H. COOK. London 1941. pp. 36. ill.

— Lecture on the use of the Spekker photo-electric absorptiometer in metallurgical analysis. By E. J. VAUGHAN. London 1941. pp. 48. ill.

MINISTRY OF AGRICULTURE AND FISHERIES. Bulletin No. 122. Specifications and methods of analysis for tar oil winter washes. London 1941. pp. iv + 22.

TIN RESEARCH INSTITUTE. Publication No. 105. The spectrographic analysis of tin-lead solders. By D. M. SMITH. London 1941. pp. 8.

WOOL INDUSTRIES RESEARCH ASSOCIATION. Animal fibres of industrial importance: their origin and identification. By A. B. WILDMAN. Leeds 1940. pp. 28. ill.

THE CHEMICAL SOCIETY

NOTICE OF FORTHCOMING SCIENTIFIC MEETINGS

MEETING IN LONDON.

Thursday, February 19th, at 2.30 p.m.

Tilden Lecture entitled "Fluorine," by Dr. H. J. Emeléus.

MEETINGS OUTSIDE LONDON.

DUNDEE.

Monday, January 19th, at 4 p.m.

Lecture on "The Structure of Fibres," by Dr. W. T. Astbury, F.R.S., to be held in the Chemistry Department, University College.

EDINBURGH.

Wednesday, January 28th, at 7.15 p.m.

Lecture on "Synthetical Investigations in the Natural Resin Field," by Professor R. D. Haworth, D.Sc., Ph.D., Joint Meeting with the Local Sections of the Institute of Chemistry and the Society of Chemical Industry, to be held in the North British Station Hotel.

GLASGOW.

Friday, January 16th, at 5 p.m.

Lecture on "Sesquiterpene Ketones," by Professor J. L. Simonsen, D.Sc., F.R.S., to be held in the Royal Technical College.

Friday, February 20th, at 7.30 p.m.

Tilden Lecture entitled "Fluorine," by Dr. H. J. Emeléus, in the Royal Technical College, to be preceded by the Annual General Meeting of local Fellows at 7 p.m.

SHEFFIELD.

Friday, February 27th, at 5.30 p.m.

Lecture on "The Chemistry of Starch," by Professor E. L. Hirst, F.R.S. Joint meeting with the Sheffield University Chemical Society, to be held in the Chemistry Lecture Theatre of the University.

PROCEEDINGS

OF THE

CHEMICAL SOCIETY.

MEETINGS OUTSIDE LONDON.

LECTURE AT DUNDEE, NOVEMBER 12th.

A meeting of the Chemical Society was held in the Chemistry Department of University College, Dundee, at 5 p.m., on November 12th, with Professor W. F. K. Wynne-Jones in the Chair. Professor H. L. Riley, D.Sc., lectured on the "Crystallisation of Graphite." He gave an interesting account of the structure of "amorphous" carbon, with special reference to the crystal lattice of graphite. The lecture was illustrated by lantern slides, and reproductions of X-ray photographs. A hearty vote of thanks to the Lecturer was proposed by Mr. H. L. Parsons, and carried with acclamation.

LECTURE AT SHEFFIELD, NOVEMBER 21st.

A joint meeting with the Chemical Society of the University of Sheffield was held in the Chemistry Lecture Theatre of the University at 5.30 p.m. on November 21st, 1941, with Professor R. D. Haworth in the Chair, when Professor H. W. Melville, F.R.S., delivered a lecture on "Polymers." The Lecturer showed how macromolecules could be divided into two classes according to their mode of formation, namely of those formed with elimination of small molecules (*e.g.*, water) and of those formed without elimination, in which case some unsaturation must be present in the parent substance. Experimental study of the kinetics of the latter type of process was described and it was concluded that the formation of linear polymers depended on a chain reaction, the active monomer being considered, at least in some instances, to be a diradical. The lecture concluded with a discussion of the more difficult problems presented by the formation of three-dimensional macromolecules.

A cordial vote of thanks to the Lecturer proposed by Dr. A. H. Lamberton and seconded by Mr. R. C. Brian was carried with acclamation.

OFFICIAL ANNOUNCEMENTS

DEATH.

The Council regret to announce the death of Mr. John Dunlop Millen, who was elected in 1905 and died on August 1st, 1941. The sympathy of the Council has been conveyed to the relatives.

CONGRATULATIONS.

The President has conveyed the congratulations of the Council to Professor E. C. C. Baly, and Messrs. C. E. Eastick, W. Thorp, and T. A. Ward, who completed 50 years of Fellowship on December 3rd.

CONTRIBUTIONS.

The thanks of the Council have been conveyed to Dr. F. A. Freeth and Professor D. H. Peacock for contributions to the Publications Fund, and to Mr. C. H. Wright for presenting publications of the Society.

HARRISON MEMORIAL PRIZE.

The Harrison Memorial Prize for 1941 has been awarded to Dr. Henry Norman Rydon.

RESEARCH GRANTS.

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

	£	s.	d.
Addition to olefins. Miss M. Brewer (University College, London)	10	0	0
The reactivity of certain alkyl halides with special reference to the <i>neopentyl</i> problem. I. Dostrovsky (University College, London)	10	0	0
The chemical kinetics of the interaction of alkyl iodide with sodium <i>m</i> -5-xylyloxi- de in alcoholic solutions. R. L. Kenny (Chelsea Polytechnic)	5	0	0
The preparation of unsaturated hydrocarbons. G. A. Maw (University College, London)... ..	10	0	0
The spectroscopy of polyatomic molecules. H. W. Thompson (Oxford University)	15	0	0

FELLOWSHIP.

The resignations of 12 Fellows have been accepted, 3 Fellows have been reinstated and the following 62 new Fellows were elected on December 18th :

Walter Edgar Abbott.	Eric Leslie Johnson.
Peter Alexander.	Frank Raymond Jones.
Douglas Frederick Anstead.	John Henry Jones.
Sidney Ashworth.	Richard Arthur Jones.
Pierre Baranger.	Franz Paul Kaiser.
Alexander McColl Bremner.	Henri Laurent McDonald Liegeois.
Charles William Bunn.	Barbara Wharton Low.
Sydney Burnley.	William Wylie Macfarlane.
James Frederick Clark.	John Frederick William McOmie.
Donald Herbert Frank Clayson.	Cynthia Mary Matthew.
Reginald Joseph Cole.	George Alexander Maw.
Edward Collins.	Terence Moore.
Arnold Cousen.	George Stanley Muirhead.
Samuel Jackson Davis.	Richard Neiger.
John Short Dunn.	Percy Parrish.
William Etheridge.	Gavin Duffus Pearson.
James Michael Faulds.	Harry Gascoyne Rains.
George Alexander Fletcher.	Stanley Robson.
William Edmund Fletcher.	William Hilton Roscoe.
Henry Stennett Foster.	Frederick Ernest Rymill.
John Walter France.	Percy Douglas Scott.
Marcus Francis.	William Henry Shilling.
Philip Halton.	Charles George Smith.
Walter Sim Harris.	John Bamber Speakman.
William Finnemore Harrison.	John Stafford.
Wilfred Herman Hoffert.	Peter Steel.
Harold Malcolm Hood.	Norman Taylor.
Herbert George Howson.	Eric Vero.
Eric Lewis Enoch Humphriss.	Trevir Waldmeyer.
Harold Rupert Jensen.	William George Williams.
John Buchan Jepson.	Frederick Ernest Wilson.

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 Monday, January 19th. Such objections will be treated as confidential. The forms of application are displayed in the Library.)

Bailey, Sidney George William. For past nine years have been Technical Adviser on Sulphonated Oils as applied to the Leather Tanning Industry. British. Station Road, Little Saxham, Suffolk. Technical Adviser.

Signed by : C. H. Spiers, A. D. Mitchell, D. Jordan Lloyd.

- *Braude, Ernst Alexander.** Inter Science (Lond.). Stateless (former German). 9 Sussex Place, W. 2. 3rd year Chemistry Student at the Royal College of Science, London.
Signed by : H. V. A. Briscoe, A. A. Eldridge, L. S. Theobald.
- Buckley, Gerard Dunstan,** A.M.C.T. British. 8, Marston Road, Stretford. Research Chemist.
Signed by : H. A. Piggott, D. A. W. Fairweather, F. Irving.
- Caws, Alfred,** F.I.C., A.H.W.C. British. Messrs. Begg Sutherland & Co., Ltd., Marhowrah Post Office, Saran District, Bihar. Advisory Chemist.
Signed by : Hugh B. Nisbet, Robert G. M. Dakers, James Sandilands.
- Christie, John,** F.I.C. British. Harbour Winds, Overland Road, Mumbles. Works Chemist.
Signed by : J. J. Fox, Wm. Cullen, R. Leslie Collett.
- Dick, James,** A.R.T.C. (Glas.), F.I.C., Member Soc. Chem. Industry. Scotch. Food and Drugs Laboratory, Sussex & John, Ltd., Ottawa, Ontario. Dominion Analyst.
Signed by : A. Linton Davidson, C. H. Robinson, E. W. R. Steacie.
- Dickinson, David Thomason,** British. 49, Hoole Road, Chester. Pharmaceutical Chemist.
Signed by : Charles Alex Hill, Francis H. Carr, H. L. Gerry.
- Dixon, Joseph Keith,** M.Sc. (N.Z.), Ph.D. (Lond.), D.I.C., F.I.C. British. Soil Survey Laboratory, 54, Molesworth Street, Wellington, N.Z. Chief Soil Chemist, D.S.I.R.
Signed by : Thomas H. Easterfield, J. J. Fox, Wm. Cullen.
- *Duncan, James Francis.** British. Jesus College, Oxford. Student at Oxford University.
Signed by : Ronald P. Bell, D. L. Chapman, J. C. Smith.
- Foster, Alexander Graham,** B.A., B.Sc. (Oxon.). British. 66, Hawthorne Avenue, Rainham Mark, Gillingham. Acting Head of a Technical College.
Signed by : G. M. Bennett, E. W. McClelland, C. S. Salmon.
- Graham, Kenneth Lindley,** A.I.C. British. New House Farm, West Huntspill, near Highbridge. Chemist.
Signed by : Walter H. Glover, Wm. Wardlaw, M. Le Pla.
- Harrison, John,** B.Sc. (Lond.), A.I.C. British. 24, Oakwood Avenue, Southgate, N. 14. Chemist.
Signed by : H. Lambourne, W. Taylor, G. W. McCrea.
- Hand, Percy George Terry,** F.I.C. British. The Cottage, Piercing Hill, Theydon Bois. Works Chemist.
Signed by : Foster Sproxton, Geoffrey Swann, L. W. Turner.
- *Hewitt, Eric John,** B.Sc.Hons. (Lond.). Engaged in Industrial Chemical analysis and special investigation. British. Belmont House, Kidwelly, Carmarthen. Works Chemist.
Signed by : G. M. Bennett, E. B. Maxted, E. W. McClelland.
- Hopkinson, Gerald,** A.I.C., A.M.C.T. British. West Thurrock, Grays. Works Chemist.
Signed by : A. V. Hussey, A. J. Prince, S. R. Bowden.
- Hornby, Clement Denton,** M.Sc. (Leeds), A.I.C. British. 7, Fairhaven Road, St. Annes-on-Sea. Technical Adviser.
Signed by : W. Lowson, H. J. Hodsmen, R. Leslie Collett.
- *Ilett, John David.** English. 62, High Street, Nuneaton. Undergraduate, Cambridge University.
Signed by : B. C. Saunders, N. B. Chapman, C. Brown.
- Mackeand, James Crawford,** A.I.C. British. 40, Ainsty Avenue, Dringhouses, York. Research Chemist.
Signed by : Harold B. Brown, B. G. McLellan, R. Leslie Collett.
- Michie, Arthur Cumming,** D.Sc. (Aberd.), F.I.C. British. 12a, Kenside Hill, Newcastle-on-Tyne. Consulting Chemist.
Signed by : F. J. Wilson, G. R. Clemo, F. L. Robinson.
- Moggridge, Richard Cayley Giffard,** B.A., B.Sc. (Oxon.), Ph.D. (Lond.). British. 8, Blue Bell Lane, Huxton. Research Chemist.
Signed by : C. R. Harington, Rosalind Pitt Rivers, A. Neuberger.

- Moon, Francis Eric**, Ph.D., M.Sc. (Dun.), A.I.C., National Diploma in Dairying (Honours).
British. Department of Hygiene and Dietetics, Royal (Dick) Veterinary College,
Edinburgh. Lecturer and Research Chemist.
Signed by : J. J. Fox, Wm. Cullen, F. P. Dunn.
- Pepper, Albert Cecil**, B.Sc. and Ph.D. (Lond.), A.I.C. British. 8, Chesterfield Road,
Ewell West. Works Chemist.
Signed by : Alexander Duckham, J. S. S. Brame, S. Bowrey.
- Saxby, Derrick John**, B.Sc. (Lond.), A.I.C., A.C.G.F.C. British. 14, Coppice Walk,
Totteridge. Works Chemist.
Signed by : H. Williams, R. W. Morris, B. E. Wayne.
- Sharp, Frederick Lawrence**, A.C.G.F.C., A.I.C. British. The Woodlands, Crescent Road,
Crumpsall, Manchester, 8. Research Chemist.
Signed by : M. Barrowcliff, E. H. Rodd, W. A. Sexton, A. D. Ainley.
- Still, John Errol**, B.Sc. (Lond.). British. 3, Bramcote Drive, Beeston. Microanalyst,
University College, Nottingham.
Signed by : John C. Roberts, D. O. Jordan, J. Masson Gulland.
- Tunstall, Richard Brian**, M.Sc. (Birm.), A.I.C., Assoc.M.Inst.Gas.E. British. Wil-
loughby Lane, N. 17. Chief Assistant Chemist.
Signed by : T. J. Drakeley, R. F. West, D. H. Richardson, H. J. S. King.
- Whitehouse, Arthur Arnold Keer**, M.A. (Cantab.). English. 83, Westley Road, Acock's
Green, Birmingham, 27. Research Chemist.
Signed by : George Dring, H. McCombie, T. T. Jones.
- Williams, Edmund Gardner**, M.A. (Cantab.), F.I.C. British. 61, Earlsway, Curzon Park,
Chester. Assistant to Public Analyst.
Signed by : A. E. Findley, R. R. Butler, Harold Lowe.
- *Williams, James Frederick**, Inter B.Sc. (Lond.). British. 12, Dobell Road, Eltham,
S.E. 9. Student of Chemistry at the Imperial College.
Signed by : H. V. A. Briscoe, H. J. Emeléus, L. S. Theobald.
- Yeoman, Ernest Wickham**, M.Sc. (Lond.), A.R.C.S., A.R.S.M., D.I.C., F.I.C. British.
14, Sketty Road, Swansea. Lecturer, Metallurgy Department, Royal School of
Mines, London.
Signed by : J. E. Coates, L. E. Hinkel, E. E. Ayling.

**UNDER SPECIAL PROVISION APPERTAINING TO APPLICANTS RESIDENT
ABROAD.**

- Metcalf, Walter Sidney**, M.Sc.Hons. (N.Z.). British. Chemistry Department, Otago.
University, Dunedin, N.Z. Lecturer in Chemistry.
Signed by : F. G. Soper, S. N. Slater.
- Williams, Harry Laverne**, B.A. and M.Sc. (Ontario). Three years' research experience.
English. Chemistry Building, McGill University, Montreal. Demonstrator and
Graduate Student.
Signed by : A. Bruce Macallum.

* Reduced Annual Subscription.

PAPERS RECEIVED

List of papers received between November 20th and December 19th, 1941. (This list does not include the titles of papers which have been read at a Scientific Meeting or which have appeared in the *Journal*.)

- "Compounds of naphthoic acids with their copper and nickel salts. Copper and nickel sulphinates and their oxidation to sulphonates." By MRS. W. G. WRIGHT.
- "The caoutchol component of natural rubber—A correction." By K. C. ROBERTS.
- "The oxidation of ketohydroxystearic acids in presence of alcoholic alkali." By T. P. HILDITCH and H. PLIMMER.

- "The active principles of leguminous fish-poison plants. Part VI. Robustic acid." By S. H. HARPER.
- "The constitution of agar." By W. G. M. JONES and S. PEAT.
- "*Cannabis indica*. Part X. The essential oil from Egyptian hashish." By J. L. SIMONSEN and A. R. TODD.
- "The absorption spectra of mono-, di-, and tri-chloroamines and some aliphatic derivatives." By W. S. METCALF.
- "1:3:3-Trimethyl- Δ^1 -cyclohexene-4-carboxylic acid; its formation from 1- Δ^3 -carene-5:6-epoxide." By A. R. PENFOLD and J. L. SIMONSEN.
- "*meso*Benzanthronecarboxylic acids." By F. C. COPP and J. L. SIMONSEN.
- "Observations on the absorption spectra of terpenoid compounds. Part II. Irone." By A. E. GILLAM and T. F. WEST.
- "A note on 2-aminoacridine-7-sulphonamide." By E. AARONS and A. ALBERT.
- "The action of sodium silicate on manganous salts in solution." By E. A. DANCASTER.
- "Anti-bacterial substances allied to sulphanilamide." By T. DEWING, W. H. GRAY, B. C. PLATT, and D. STEPHENSON.
- "The condensation of *o*-phenylenediamine with ethyl acetoacetate." By W. A. SEXTON.
- "Reactions of benzthiazole derivatives. Part III. The interaction of 1-thiolbenzthiazoles with alcohols." By W. H. DAVIES and W. A. SEXTON.
- "The determination of hypophosphites by potassium permanganate." By J. R. POUND.
- "Experiments on the synthesis of potential cortical hormone substitutes. Hydroxy-carbonyl derivatives of diphenyl ether and related compounds." By J. WALKER.

ADDITIONS TO THE LIBRARY.

I. Donations.

BRITISH ALUMINIUM Co., LTD. Analysis of aluminium and its alloys. [2nd edition.] London 1941. pp. 186. ill. (*Recd.* 10/12/41.)
From the Director.

SAND, H. J. S. Electrochemistry and electrochemical analysis. Vol. III. Electrical methods applied to titration, moisture determination and p_H measurement. London 1941. pp. x + 118. ill. 5s. 6d. net. (*Recd.* 11/12/41.)
From the Publishers: Messrs. Blackie & Son.

II. By Purchase.

BRANCH, G. E. K., and CALVIN, MELVIN. The theory of organic chemistry: an advanced course. New York 1941. pp. xx + 523. ill. \$4. (*Recd.* 18/12/41.)

COLLINGS, GILBEART H. Commercial fertilizers: their sources and use. 3rd edition. Philadelphia 1941. pp. xxii + 480. ill. \$4.50. (*Recd.* 18/12/41.)

HUNTRESS, ERNEST HAMLIN, and MULLIKEN, SAMUEL PARSONS. Identification of pure organic compounds. Tables of data on selected compounds of Order I. (Compounds

of carbon with hydrogen or with hydrogen and oxygen.) New York 1941. pp. xviii + 691. (*Reference.*) \$7.50.

KOLTHOFF, I. M., and LINGANE, J. J. Polarography: polarographic analysis and voltammetry, amperometric titrations. New York 1941. pp. xvi + 510. ill. \$6. (*Recd.* 21/11/41.)

MELLAN, IBERT. Organic reagents in inorganic analysis. Philadelphia 1941. pp. xxiv + 682. (*Reference.*) \$9.

SACHS, GEORGE, and VAN HORN, KENT R. Practical metallurgy: applied physical metallurgy and the industrial processing of ferrous and non-ferrous metals and alloys. Cleveland, Ohio 1940. pp. x + 567. ill. \$5. (*Recd.* 15/12/41.)

III. Pamphlets.

BRITISH COMPRESSED AIR SOCIETY. Compressed air terms and standards. Revised edition. London 1941. pp. 62.

BRITISH NON-FERROUS METALS RESEARCH ASSOCIATION. *Research Reports*. RRA 562. Researches on the structures of alloys. By W. HUME-ROTHERY. London 1941. pp. 20. ill.

