

# THE CHEMICAL SOCIETY

## NOTICE OF FORTHCOMING SCIENTIFIC MEETINGS

IN LONDON (Burlington House).

Thursday, February 15th, 1945, at 2.30 p.m.

The following papers will be read and discussed :

"Molecular compounds between amines and sulphur dioxide. A comment on Jander's theory of ionic reactions in sulphur dioxide." By L. C. Bateman, E. D. Hughes, and C. K. Ingold.\*

"Experiments on the synthesis of the pyrethrins. Part I. Synthesis of chrysanthemum monocarbocyclic acid." By S. H. Harper.

"Studies on the chemical constitution of colchicine." By N. Barton, G. L. Buchanan, J. W. Cook, W. Graham, and J. Loudon.\*

Thursday, March 15th, 1945, at 2.30 p.m.

**Liversidge Lecture** on "Reactions in Monolayers," by Professor E. K. Rideal, M.B.E., M.A., D.Sc., F.R.S.

### OUTSIDE LONDON.

#### BRISTOL.

Thursday, February 8th, 1945, at 5.30 p.m.

**Tilden Lecture** on "Diffraction Methods in Modern Structural Chemistry," by Professor J. M. Robertson, M.A., D.Sc. To be held in the Department of Chemistry of the University.

#### EDINBURGH.

Friday, February 23rd, 1945, at 7.30 p.m.

**Tilden Lecture** on "Non-Benzenoid Aromatic Hydrocarbons," by Professor W. Baker, M.A., D.Sc. To be held in the North British Station Hotel.

#### GLASGOW.

Friday, February 16th, 1945, at 7.30 p.m.

**Lecture** on "Some Aspects of the Metabolism of the Steroid Hormones," by Professor G. F. Marrian, D.Sc., F.R.S. To be held at the Royal Technical College, and to be preceded at 7 p.m. by the Annual General Meeting of local Fellows.

#### LEEDS.

Tuesday, March 6th, 1945, at 5.15 p.m.

5.15 p.m. Film entitled "Sulphonamide Therapy."

6.0 p.m. Light refreshments.

6.30 p.m. Discussion on "The Repercussions of Modern Theoretical Developments on the Methods of Teaching Chemistry in Schools," to be opened by Professor F. G. Tryhorn.

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

#### MANCHESTER.

Thursday, February 15th, 1945, at 6 p.m.

Meeting for the reading of original communications. To be held in the Chemistry Lecture Theatre of the University.

• To read paper.

## NORTH WALES.

Thursday, February 8th, 1945, at 5.30 p.m.

**Lecture** on "The Strength of Carbon Bonds," by Professor M. Polanyi, Ph.D., M.D., F.R.S. To be held in the Department of Chemistry, University College of North Wales, Bangor. Joint meeting with the University College of North Wales Chemical Society.

## NOTTINGHAM.

Thursday, February 22nd, 1945, at 6.30 p.m.

**Lecture** on "Pyrethrum and the Pyrethrins," by Dr. A. E. Gillam, F.R.I.C. To be held in the Lecture Theatre, Chemistry Department, University College, Shakespeare Street.

## SHEFFIELD.

Friday, February 9th, 1945, at 5.30 p.m.

**Lecture** on "Non-Benzenoid Aromatic Systems," by Professor W. Baker, M.A., D.Sc. To be held in the Lecture Theatre of the Chemistry Department of the University, Western Bank. Joint meeting with the University Chemical Society.

# PROCEEDINGS

OF THE

## CHEMICAL SOCIETY.

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### Minutes of a SCIENTIFIC MEETING

held at Burlington House, Piccadilly, W. 1, on Thursday, January 18th, 1945, at 2.30 p.m.

The President, Professor W. N. HAWORTH, D.Sc., F.R.S., was in the Chair, and welcomed the visitors present.

#### MINUTES.

The minutes of the Scientific Meeting on November 16th, which had been circulated, were taken as read and were confirmed and signed.

#### FORMAL ADMISSION OF FELLOWS.

The following were formally admitted Fellows of the Chemical Society: V. Gold, R. L. Wickens, A. D. Wright, D. E. Eddowes, J. H. Nicholls, A. R. L. Chivers, B. Atkinson, J. F. Wood, P. J. West, A. R. Burkin, J. Pisker, H. M. B. Buckell, A. R. Peacocke, R. E. Dodd, H. A. Rigby, E. S. Halberstadt, R. A. Reed, D. Mona Grove, J. F. Brown, B. W. Rogers, Max Perutz.

#### TILDEN LECTURE.

After a brief introduction, the PRESIDENT called on Professor J. M. Robertson to deliver this Tilden Lecture, entitled: "Diffraction Methods in Modern Structural Chemistry."

At the conclusion of the lecture, a vote of thanks to the Lecturer, proposed by Professor G. Ingle Finch, was carried with acclamation.

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### OFFICIAL ANNOUNCEMENTS

#### DEATHS.

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

	Elected.	Died.
Max Bergmann .....	1933	Date unknown.
Robert Frederick Blake .....	1890	November 25th, 1944
Henry Dreyfus .....	1941	December 30th, 1944.
Martin John Hoare .....	1920	Date unknown.
Edwin James Read .....	1895	November 23rd, 1944.
John Stafford .....	1941	January, 1944.

#### VACANCIES ON COUNCIL.

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

#### Vice-Presidents who have not filled the office of President:

Dr. F. H. CARR, Professor A. FINDLAY, and Professor C. S. GIBSON.

#### Elected Ordinary Members of Council:

Constituency I (South-East England). Dr. D. J. G. IVES, Dr. F. B. KIPPING, and Dr. H. W. Thompson.

Constituency II (Central and South-West England). Dr. G. S. HARTLEY, Dr. E. B. MAXTED, and Dr. H. B. WATSON.

Constituency III (North-West England, North Wales, and the Isle of Man). Dr. F. FAIRBROTHER and Dr. E. H. RODD.

Constituency IV (North-East England). Dr. J. W. BAKER.

Constituency V (Scotland). Professor J. W. COOK.

The above are ineligible to the same office until after the lapse of one year.

In June, 1944, the Council accepted the resignation of Professor C. W. DAVIES from the office of Honorary Secretary as from the end of September, and on the 16th November appointed Professor H. V. A. BRISCOE to this office until the next Annual General Meeting.

**NOTICE is hereby given** that in accordance with the Bye-Laws the following vacant places in the Council fall due to be filled at the Annual General Meeting to be held in London on the 19th April, 1945 :

**Honorary Secretary** . . . . . *One vacancy.*  
**Vice-Presidents who have not filled the office of President** . . . . . *Three vacancies.*

**Elected Ordinary Members of Council:**

**Constituency I** (South-East England) . . . . . *Three vacancies.*  
 „ **II** (Central and South-West England) . . . . . *Three vacancies.*  
 „ **III** (North-West England, North Wales, and the Isle of Man) *Two vacancies.*  
 „ **IV** (North-East England) . . . . . *One vacancy.*  
 „ **V** (Scotland) . . . . . *One vacancy.*

In accordance with Bye-Law 23, the Council have nominated Professor H. V. A. BRISCOE to the office of Honorary Secretary

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

Fellows resident in a constituency may nominate any Fellow resident in that constituency for election to the Council to fill a vacancy among Elected Ordinary Members of Council allotted to that Constituency. Every such nomination must be in writing **signed by at least fifteen Fellows resident in that constituency.** For full particulars of the area of each Constituency, see page 3.

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

All nominations must be received by the Honorary Secretaries at the Society's Rooms **not later than Wednesday, the 14th February, 1945.**

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

**ACKNOWLEDGMENTS.**

The thanks of the Council have been conveyed to :

(a) The Chemical Council for a grant of £50 towards the cost of summaries of papers appearing in the Journal for 1944.

(b) The Society of Dyers and Colourists for a contribution of £10 10s. to the Library for 1944.

(c) Mr. N. C. B. Hay for presenting sets of the Journal and Abstracts A.

**RETIREMENT OF GENERAL SECRETARY.**

The Council announce with regret that they have received from Mr. S. E. CARR an intimation that in the summer of 1945 he wishes to retire from the office of General Secretary, after serving the Society for 43 years.

**HARRISON MEMORIAL PRIZE, 1944.**

The Harrison Memorial Prize Selection Committee has awarded the Harrison Memorial Prize for 1944 to Dr. LESLIE F. WIGGINS, of Birmingham University. The presentation will be made at the Annual General Meeting of the Society on April 19th, 1945.

**FELLOWSHIP.**

The following 48 candidates were elected Fellows of the Chemical Society on December 14th, 1944 :

Dennis Victor Arnold.	Victor Gold.	Ronald Herbert Smith.
Bernard Atkinson.	Dorothea Mona Grove.	Fred Raymond Stafford.
Arthur Sydney Bailey.	Donald William Grover.	Alfred Thomas Steadman.
George Beeston.	Cledwyn Ronald Stephen Harries.	Tom Thornley.
Mary Alice Birch.	Thomas Arthur Heppenstall.	John Lucas Turner.
Margaret Cecilia Jackson Boyle.	Philip Sidney Hetherington.	Dorothy Mary Usher.
Helen Monamy Bayldon Buckell.	Geoffrey Holt.	Leonard Eric Ward.
Herbert Charles Butcher.	Gordon Hopkins.	Horace Edward Watson.
Kenneth Leopold Butcher.	Kenneth John Ivin.	Ernest Edmund Wells.
Marie Evelyn Coates.	Douglas William Jopling.	Peter John West.
William Percival Coldrick.	Albert Ernest Judd.	Vincent Henry Westlake.
Edmund Allaway Cooke.	Boris Nicholas Levitsky.	John Stanley Whitehurst.
Brian Milner Cowburn.	Israel Marszak.	Robert Louis Wickens.
John Stuart Michael Dashwood.	Wilfred John Oldham.	John Francis Wood.
Ronald Leonard Denyer.	Sydney Pickles.	Arthur Desmond Wright.
George Alan Garton.	Kenneth Reginald Rees.	John Paterson Young.

## 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, February 19th, 1945. Such objections will be treated as confidential. The forms of application are displayed in the Library.)

- Abbott, William Christopher.** Certificate of the Science and Arts Department, 2nd Class Inorganic Chemistry. Certificated Dispenser, Society of Apothecaries. British. Chief Medical Officers Department, Ministry of Supply, Shell Mex House, Strand, W.C. 2. Medical Stores Officer. Signed by : J. T. Hewitt, Clarence Smith, W. C. Slater.
- (b) **Anderson, Lewis Charles,** A.R.I.C. British. 56, Long Road, Newton Heath, Manchester, 10. Technical Assistant, Ministry of Supply. Signed by : D. S. Stephens, G. Spencer, C. G. Childs.
- (b) **Arnall, Paul,** Higher School Certificate (Northern Univ.), Regd. Student, R.I.C. British. 52, Prouds Lane, Bilston. Junior Analytical Chemist at the Midland Tar Distillers, Ltd. Signed by : C. S. Kipping, F. G. Broughall, E. N. White.
- † **Barrett, Eric George Victor,** B.Sc. and Ph.D. (Lond.), A.R.I.C., A.M.I.Chem.E., A.R.P.S. British. c/o Elliott & Sons, Ltd., Park Road, Barnet. Chief Chemist. Signed by : Henry Terrey, O. L. Brady, H. J. Evans, L. F. Gilbert.
- † **Barter, Arthur,** M.A. and B.Sc. (Oxon), A.R.I.C. English. 15, Hullah Lane, Wrexham. Signed by : Frank C. Buckley, W. Hodgson, W. F. Bennett.
- \* **Beer, Roger John Sidney,** B.A.Hons. (Oxon). British. Balliol College, Oxford. Research in Organic Chemistry for degree of D.Phil. at the Dyson Perrins Laboratory, Oxford. Signed by : R. P. Bell, F. E. King, W. Baker.
- † **Bere, Charles Montague,** M.Sc. (Lond.), F.R.I.C. British. Municipal College, Portsmouth. Senior Lecturer in Chemistry. Signed by : A. M. Ward, F. Hemming, L. Crombie.
- † **Bevan, Tom Harry,** B.Sc.Hons. (Bristol). British. Orchard View, Chilcompton, nr. Bath. Research Chemist. Signed by : E. L. Hirst, J. K. N. Jones, T. Malkin.
- \* **Bottomley, Warwick,** Science graduate (Sydney). British. 2, Cambridge Street, North Sydney, N.S.W. Organic Chemistry Honours Student, University of Sydney. Appointed Research Chemist to Drug Panel of Western Australia State Department of Industrial Development from January, 1945. Signed by : J. C. Earl, Thomas Iredale, Adrien Albert.
- (b) **Boyce, Eric Arthur,** A.R.I.C. British. 11, Briar Road, Skellow, Doncaster. Resident Chemist for Doncaster Amalgamated Collieries Limited at the Central Laboratory, Brodsworth Main Colliery. Signed by : G. Lawton, H. J. T. Ellingham, R. Leslie Collett.
- † **Brady, Thomas Gerard,** M.Sc. (N.U.I.), Ph.D. (Munich), A.R.I.C. Irish. 7, Idrone Terrace, Blackrock, Co. Dublin. Assistant Lecturer in Biochemistry, University College, Dublin. Signed by : Vincent C. Barry, A. G. G. Leonard, Thos. J. Nolan.
- † **Broomhead, Charles,** A.R.I.C. British. 16, Neville Road, Waterloo, Liverpool, 22. Analytical Chemist. Signed by : L. G. Townsend, A. Ormrod, S. C. Glass.
- † **Campbell, Sydney Glenroy,** A.R.I.C. British. Nunwood, Apperley Bridge, Bradford. Grease Research Chemist, Bradford Corporation Sewage Works. Signed by : Arnold Breare, L. A. Jordan, S. H. Bell.
- † **Chamberlain, George Humfrey Neville,** B.Sc. (Lond.), A.R.I.C. British. 14, Oaklea Avenue, Hoole, Chester. Research Chemist. Signed by : David S. Penny, R. R. Baldwin, T. P. Hughes.
- Chapman, Frank,** M.A. (Cantab.). British. 78, Brooklands Avenue, Fulwood, Sheffield, 10. Research Chemist. Signed by : Brynmor Jones, E. Gertrude Turner, D. Woodcock.
- † **Chard, Sylvester John Herbert Owen,** B.Sc.Hons. (Wales), University of Wales Teachers' Diploma in Education. British. 1, Herbert Street, Bridgend. Assistant Lecturer in Chemistry, University College, Cardiff. Signed by : W. J. Jones, N. M. Cullinane, S. T. Bowden.
- † **Coles, Romney,** B.Sc.Hons. (Lond.), A.R.I.C., Diploma of Education. British. The Brake, St. Austell. Senior Chemistry Master, The King's School, (Canterbury), at Carlyon Bay, St. Austell. Signed by : N. K. Adam, A. J. Allmand, H. W. Cremer.
- † **Comely, Richard Michael,** B.Sc. (Lond.), A.R.I.C. British. 26, Ismay Road, Chaddesden. Research Chemist. Signed by : R. Souter, D. S. M. Davis, James J. Allen.
- † **Consdon, Raphael,** B.Sc. and Ph.D. (Lond.). British. 12, Miles Hill Road, Leeds, 7. Research Chemist at Wool Industries Research Association. Part-time lecturer in Chemistry at College of Technology, Leeds. Signed by : Henry Phillips, L. F. Story, John Barritt.
- † **Cooke, Edward Vincent,** B.Sc.Hons. (Manc.), application for A.R.I.C. being made. British. Heybury, Prestbury Lane, Prestbury, nr. Macclesfield. Research Chemist employed by I.C.I., Ltd. (Dyestuffs Division). Signed by : Colin Campbell, G. N. Burkhardt, A. Melrose.
- (b) **Cooper, Ronald Lifton,** B.Sc.Hons. (Lond.), A.R.I.C. British. 28, Beechwood Rise, Watford. Works Chemist to a Gas Company. Signed by : E. de Barry Barnett, R. C. Watkins, Cecil L. Wilson.
- † **Crowl, Victor Terrell,** B.Sc. and Ph.D. (Lond.), D.I.C., A.R.C.S., A.R.I.C. British. 25, Laureston Avenue, Heysham. Technical Assistant. Signed by : R. E. Goddard, Mark Guter, Homi E. Eduljee.
- (b) **Dalziel, Keith,** B.Sc.Hons. (Lond.), A.R.I.C., A.R.T.C. (Salford). British. 12, Symons Street, Higher Broughton, Salford, 7. Chemical Laboratory Technician, Manchester Victoria Memorial Jewish Hospital. Signed by : Isaac Goodman, W. M. Roberts, E. Tidd.
- \* **Dawson, John Keith,** B.Sc.Hons. (Birm.). British. 440, Belt Road, Hednesford. Research Assistant. Signed by : L. L. Bircumshaw, M. Stacey, Stanley Peat.
- (b) **Doyle, Joseph James,** B.Sc.Hons. (Glas.), A.R.T.C., A.R.I.C. British. 104, Aros Drive, Mossbank, Glasgow, S.W. 2. Assistant Chemist, William Beattie, Ltd. Signed by : Hugh C. Moir, Henry G. A. Anderson, Edmund Bishop.
- † **Dutton, Leonard Carlidge,** A.R.I.C. British. c/o Virol Ltd., Hanger Lane, Ealing, W. 5. Biochemist. Signed by : Eric C. Wood, A. J. Amos, D. W. Kent-Jones.
- Edgington, Ben,** B.Sc. (Lond.), F.R.I.C., M.I.Chem.E. British. 22, Chantrey Road, West Bridgford. Chemical Engineer. Part-time research student, University College, Nottingham. Signed by : R. Banks, H. Barnes, T. Hagyard.

- (b) **Evans, David Wilfred Shawyer**, B.Sc.Hons. (Lond.), A.R.I.C. British. 1, Ashfield Place, Llanfaes, Brecon. Shift Chemist, Coke-Oven Plant. *Signed by* : John C. Roberts, E. O'F. Walsh, D. O. Jordan.
- † **Firrell, John Pindar**, B.Sc. (Lond.), A.R.I.C. British. 14, Priory Hill, Dartford. Chief Chemist, Dartford Paper Mills, Ltd. *Signed by* : John W. Corran, R. A. Morton, R. O. Griffith.
- † **Ford, John Henry**, B.Sc. (Lond.), A.R.I.C. British. 97, Erith Road, Belvedere. Chemist (C.C.I. Ministry of Supply). *Signed by* : A. S. Nickelson, A. D. Wright, J. A. V. Willis.
- † **Fraser, Robert Alexander**, B.Sc. (Lond.), A.R.I.C. British. 117b, Uxbridge Road, Hampton Hill. Analytical Chemist. *Signed by* : W. H. Hoffert, J. D. Davies, Keith H. V. French.
- † **Gardner, Frank**, Inter.B.Sc. British. 32, Cherry Orchard Road, Handsworth Wood, Birmingham, 20. Chemist at Birmingham Gas Works. *Signed by* : J. Cooper Duff, Brian B. Bach, J. N. Friend.
- \* **Gibbon, William Ewan**, Matriculation (London Univ.). British. 29, Penallta Road, Ystrad Mynach, Hengoed. Assistant Chemist, Central Laboratory, Powell Duffryn, Limited. *Signed by* : K. S. McManus, N. T. Simmons, J. F. Byrne.
- (b) **Gordon-Teall, Dennis**. Has completed two years full-time study at College in chemistry and is of B.Sc.—A.R.I.C. standard. British. 39, Regent Street, Leamington Spa. Full-time study of Chemistry. *Signed by* : Kenneth Gardner, T. R. Andrew, Charles F. Watts.
- (a) **Guttman, Steffi**. Student at London University. German. 22, Lee Road, Mill Hill East, N.W. 7. Laboratory Assistant. *Signed by* : N. A. C. Friend, B. Ellis, Roger Paget.
- † **Hammond, Roy**, B.Sc.Hons. (Lond.), F.R.I.C. British. 42, Firwood Avenue, Oaklands, St. Albans. Chemist with I.C.I. (Plastics), Ltd. *Signed by* : W. Taylor, J. E. Wynfield Rhodes, R. H. Stanley.
- Hassall, Cedric Herbert**, M.Sc., A.N.Z.I.C. British. Chemistry Department, University of Otago, Dunedin, N.Z. University teacher. *Signed by* : F. G. Soper, S. N. Slater, F. N. Fastier.
- Hill, Levi Mellor**. British. 365, Wharton Road, Winsford. Research Chemist, I.C.I. (Alkali), Ltd. *Signed by* : F. A. Freeth, John Ferguson, L. M. Clark.
- \* **Hilldrith, Gwendoline Ruth**, B.Sc. (Lond.). English. 98, Shooters Hill Road, Blackheath, S.E. 3. Student training for teaching. *Signed by* : Mary S. Lesslie, Margaret M. Jamison, D. M. Hall.
- † **Holland, David Oliver**, B.Sc. (Lond.), A.R.I.C. British. 52, Goring Way, Greenford. Research Chemist. *Signed by* : F. A. Robinson, B. Arthur Hems, E. T. Borrowes.
- † **Homer, John Arthur**, B.Sc. (Dun.), A.R.I.C. British. 93, Lewis Street, Walsall. Chemical Research, Ministry of Information. *Signed by* : R. Eryl Williams, A. D. Mitchell, S. W. Collins.
- † **Horsley, Thomas Edward Victor**, B.Sc. (Lond.), A.R.I.C. British. 14, Newbury Court, Hermon Hill, Wanstead, E. 11. Analytical Chemist (Food and Drugs). *Signed by* : B. A. Ellis, H. Egan, E. G. N. Greaves.
- (b) **Howieson, William**, B.Sc.Hons. (Glas.). Scottish. c/o Mrs. Brown, 107, Musters Road, West Bridgford. Research Chemist at Boots Pure Drug Co., Ltd. *Signed by* : W. Wilson, J. W. Minnis, R. Michaelis.
- † **Humphreys, Raymond George**, B.Sc. (Lond.), A.R.I.C. British. Holmdene, Tubbenden Lane, Orpington. Research Chemist. *Signed by* : Henry Terrey, B. Dudley Sully, Denis C. Quin.
- † **Hutchison, Thomas**, A.R.I.C. British. 363, Pilton Avenue, Edinburgh, 5. Technical Chemist, T. and H. Smith, Ltd. *Signed by* : Wm. Mitchell, W. F. Martin, Donald C. Wilson.
- † **Hutton, Gerald Charles**, B.Sc. (Lond.), A.R.I.C. British. 2, Station Flats, London Road, Reigate. Chemical analyst in works laboratory. *Signed by* : C. H. R. Gentry, G. Kohnstam, M. L. Smith.
- \* **Ingram, Donald William**, B.Sc.Hons. (Birm.) not yet conferred. British. 42, Westbourne Street, Walsall. Research Assistant, D.S.I.R. *Signed by* : L. L. Bircumshaw, M. Stacey, Stanley Peat.
- † **Kaye, Anthony Harmsworth**, B.Sc. (Lond.), A.R.I.C. British. Manbré and Garton, Ltd., Winslow Road, Hammer-smith, W. 6. Technical Manager. *Signed by* : Alan M. Maiden, H. Baines, J. Kenyon.
- † **Kelly, Hugh Edward**, F.R.I.C. British. John Smith's Tadcaster Brewery Co., Ltd., Tadcaster. Head Chemist. *Signed by* : Alex. Findlay, R. Leslie Collett, H. J. T. Ellingham.
- † **Kilner, Ernest**, B.Sc. (Lond.), A.R.I.C. British. Constantine Technical College, Middlesbrough. Lecturer in Chemistry. *Signed by* : F. R. Williams, R. W. Ancrum, P. A. Lintern.
- † **Lawrence, Jack**, B.Sc. (Lond.), A.R.I.C. British. 3, Mayne Avenue, Luton. Works Manager and Chief Chemist, Alcock (Peroxide), Ltd. *Signed by* : V. W. Slater, A. N. C. Bennett, G. G. Durrant.
- (b) **London, David Lockwood**, B.Sc. (Lond.). English. 19, Ernle Road, Wimbledon, S.W. 20. Analytical and Research Chemist at Jones, London and Jarrard, Ltd. *Signed by* : T. H. Fairbrother, C. K. Ingold, H. G. Poole.
- † **Longbottom, Kenneth William**, A.R.I.C. British. 88, Bennetthorpe, Doncaster. Chemist and Metallurgist. *Signed by* : G. Lawton, H. J. T. Ellingham, R. Leslie Collett.
- † **Mackie, Archibald T.**, A.R.I.C. British. 101, Hope Road, Brooklands, Sale. Analytical Chemist. *Signed by* : Henry G. A. Anderson, A. B. Crawford, F. Rumford.
- † **Marshall, Ian**, B.Sc.Hons. (L'pool). British. 68, Valley Road, Welwyn Garden City. Research Chemist. *Signed by* : Ivan Harris, Kathleen W. Robertson, P. A. Small.
- † **Miall, Lawrence MacKenzie**, B.A.Hons. (Cantab.). British. 15, Thurlow Road, N.W. 3. Chemist, employed by Kemball, Bishop & Co., Ltd. *Signed by* : Stephen Miall, A. L. Bacharach, E. F. Armstrong.
- (b) **Miller, Ronald Bruce**, B.Sc. (N.Z.). British. Knox College, Dunedin, N.E. 1. Chemical research. *Signed by* : F. G. Soper, S. N. Slater, F. N. Fastier.
- † **Mills, James**, B.Sc.Hons. and Ph.D. (Dun.). British. 5, Bewley Grove, Acklam, Middlesbrough. Research Chemist (extra-mural branch of the Ministry of Supply, A.R.D.). *Signed by* : P. L. Robinson, W. M. Madgin, H. L. Riley.
- † **Mitchell, John**, B.Sc. (Lond.), A.R.I.C. British. Crowcroft, Collier Lane, Ockbrook. Assistant Chemist, I.C.I. Dyestuffs Division. *Signed by* : H. F. Clay, R. S. Kahan, D. T. Sarfas.
- (a) **Moss, Frank Anthony James**. English. 37, Norman Close, Romford. Studying in final year of B.Sc., S.W. Essex Technical College, Walthamstow. *Signed by* : H. Holness, R. W. Jukes, I. L. Finar.
- (b) **Neesham, George Frederick**, A.R.I.C. British. 84, New Villas, Baxterley, nr. Atherstone. Assistant Colliery Chemist. *Signed by* : S. W. Sleigh, K. Gardner, C. F. Watts.
- † **Olsen, Norman**, A.R.I.C. British. 12, Calton Avenue, Liverpool, 15. Chemist, Liverpool Gas Company. *Signed by* : L. G. Townsend, A. Ormrod, S. C. Glass.

- †**Owen, William John**, A.R.I.C. British. 41, Waterpark Road, Prenton, Birkenhead. Chemist, Brotherton & Co., Ltd. Signed by : Dick Emsley, Paul Dalley, George Brearley.
- \***Owston, Philip George**, B.Sc.Hons. (Sheffield). British. 109, Blackheath Park, Blackheath, S.E. 3. Research Chemist (Experimental Officer in Ministry of Supply). Signed by : Brynmor Jones, R. D. Haworth, Arthur W. Chapman.
- (b)**Pearson, Maurice Herbert**. Higher School Certificate (Lond.). British. 10, Purley Hill, Purley. Civil Servant, Professional and Technical, Ministry of Supply. Signed by : G. H. Jeffery, D. M. Cowan, Arthur I. Vogel.
- \***Poole, John Bescohy**, B.A. (Oxon). British. 200, Iffley Road, Oxford. Research Chemist. Signed by : Ronald P. Bell, W. Baker, S. G. P. Plant.
- Prosser, John**, B.Sc.Hons. (Lond.). British. 46, The Parade, Cardiff. Works Chemist, Heigham & Co. Signed by : H. B. Watson, David P. Evans, W. D. Williams.
- (b)**Robinson, Stanley Richard**, B.Sc.Hons. (Lond.), A.R.C.S., A.R.I.C. British. 20, Thorpedale Road, Finsbury Park, N. 4. Research Chemist. Signed by : G. D. Buckley, L. J. Haynes, Gerald H. Hargreaves.
- (b)**Robson, Ian Kenneth Miles**, B.Sc.Hons. (Lond.), A.R.C.S. British. 16a, Victoria Rise, Clapham Common, S.W. 4. Research Student. Signed by : E. R. H. Jones, L. N. Owen, L. J. Haynes.
- †**Rogers, John**, B.A.Hons. (Cantab.), M.Sc.Tech. (Manc.), A.R.I.C. British. 521, Barlow Moor Road, Chorlton-cum-Hardy, Manchester, 21. Chemist employed by Imperial Chemical Industries, Ltd. Signed by : G. Landells, J. T. McCombie, R. G. R. Bacon.
- †**Savaage, Frank**, M.A. and B.Sc. (Oxon). British. 11, Crooksbarne Lane, Norton, Stockton-on-Tees. Industrial Chemist (Sales Control). Signed by : M. P. Applebey, A. J. Prince, J. Hughes.
- (b)**Sedley, Walter Thomas**, National Certificate in Chemistry. British. 28, Princes Avenue, Eastham. Laboratory Assistant employed by Lobitos Oilfields, Ltd. Signed by : A. McGookin, L. McGrath, F. S. Archer.
- Silverton, Joseph**. British. 58, Bramley Road, Worthing. Pharmaceutical Manufacturing Co., Ltd., Cheltenham. Signed by : B. W. Anderson, S. G. Jarrett, J. G. Green.
- (a)**Smith, Derek Bryce**. British. 38, Grosvenor Gardens, Woodford Green. 2nd year B.Sc. student. Signed by : H. Holness, R. W. Jukes, I. L. Finar.
- \***Smith, Mervyn John Hillier**, B.Pharm. (Wales), A.R.I.C. British. Tremain, Llantarnam. Lecturer in Pharmaceutical Chemistry, The Technical College, Cardiff. Signed by : John Ormston, H. B. Watson, W. D. Williams.
- (b)**Smithies, Walter Rahe**, B.Sc.Hons. (L'pool), A.R.I.C. British. 6, Agnes Road, Blundellsands, Liverpool, 23. Assistant Chemist at British Insulated Cables, Ltd. Signed by : Eric W. Mills, Joseph F. Jackson, James F. Sumner.
- †**Spencer, Edmondson**, D.Sc. (Lond.), A.R.C.S., A.R.S.M., F.R.I.C., F.Inst.Chem.Eng. British. c/o Bird & Co., Clive Street, Calcutta. Technical Adviser, Bird & Co. Signed by : Alex. Findlay, H. J. T. Ellingham, R. Leslie Collett.
- \***Stern, Edward Severin**, B.Sc. (Lond.), A.R.C.S. Austrian. 104, The Grampians, Western Gate, W. 6. Research at Royal College of Science. Signed by : E. R. H. Jones, Ernest A. Braude, A. H. Cook.
- †**Stewart, Donald MacPherson**, B.Sc. (St. Andrews), A.R.I.C. British. Redcliffe, Bank Street, Irvine. Signed by : H. T. Lester, S. Gabriel, R. Leslie Collett.
- (a)**Stockton, Eric Sidney**, B.Sc. (Lond.), A.R.C.S. British. 50, Kelvin Avenue, Palmers Green, N. 13. Junior Scientific Officer, Boiler Availability Section, British Coal Utilisation Research Association. Signed by : F. Fraser Ross, G. Whittingham, M. P. Mendoza.
- †**Stout, Henry**, Ph.C. British. 14, Belmont Gardens, Edinburgh, 12. Chief Pharmacist, Messrs. T. & H. Smith, Ltd. Examiner in Pharmaceutical Chemistry to The Pharmaceutical Society. Signed by : Wm. Mitchell, W. F. Martin, J. W. Laing.
- \***Street, John Clifford**, B.A. (Cantab.). British. 3, Andover Street, Barrow-in-Furness. Research Chemist. Signed by : Fredk. S. Dainton, R. R. Baldwin, T. P. Hughes.
- (b)**Strickland, John Douglas Hipwell**, A.R.I.C., Higher School Certificate, London University. British. 47, Merehall Street, Bolton. Analytical Chemist, Chemical Inspection Department. Signed by : F. J. Woodman, E. Foley, A. Cooksey.
- (b)**Sturgeon, Bennett**, London InterB.Sc. British. 542, Upper Brentwood Road, Gidea Park. Student at Queen Mary College for B.Sc.(Hons.) in Chemistry. Signed by : J. R. Partington, H. D. K. Drew, W. H. Patterson.
- \***Swift, Gordon**, B.Sc.Hons. (Birm.). British. 1, Russell Road, Moseley, Birmingham, 13. Research Assistant. Signed by : M. Stacey, L. F. Wiggins, L. L. Bircumshaw.
- \***Tankard, Malcolm Henry**, B.Sc.Hons. (Lond.). British. 22, Queen Anne's Grove, Bush Hill Park, Enfield. Assistant Research Chemist to Messrs. Allen & Hanbury's, Ltd. Signed by : Norman Evers, Norman R. Campbell, John H. Hunt.
- †**Taylor, Alfred McMullon**, B.Sc.Hons. (Lond.), F.R.I.C. British. Stone Hall Lodge, Church Hill, Winchmore Hill, N. 21. Analytical Chemist with Messrs. Parry & Ferguson. Signed by : F. J. Llewellyn, D. J. G. Ives, George W. Ferguson.
- \***Thomas, Brian Richard John**, B.Sc.Hons. (Birm.). British. 186, Hall Green Road, West Bromwich. Research Assistant. Signed by : L. L. Bircumshaw, M. Stacey, Stanley Peat.
- †**Thomas, William David Emrys**, B.Sc.Hons. and Ph.D. (Wales), A.R.I.C. British. Myrtle Hill, Trebanos, Swansea. Research Chemist. Signed by : J. E. Coates, A. R. Ubbelohde, R. Robertson.
- †**Thompson, George**, M.Sc. (Q.U.B.), A.R.I.C. British. Carfax, 61, Bell Road, Sittingbourne. Industrial Chemist (Paper and Pulp Manufacture). Signed by : Alex. Findlay, H. J. T. Ellingham, R. Leslie Collett.
- †**Thorneloe, Alfred Hubert**, M.A. (Cantab.), B.Sc. (Lond.), A.R.I.C. British. 25, Croham Manor Road, South Croydon. Technical Adviser, The Cement Marketing Co., Ltd. Signed by : W. A. Snow, E. S. F. Rogans, W. C. Peck.
- \***Tipper, Charles Frank Howlett**, B.Sc.Hons. (Bristol). British. 22, Elmdale Road, Tyndalls Park, Bristol, 8. Research Chemist. Signed by : E. B. Maxted, H. D. Springall, T. Malkin.
- †**Tyler, Cyril**, B.Sc.Hons. and Ph.D. (Leeds), A.R.I.C. British. Department of Agricultural Chemistry, The University, Reading. Lecturer in Agricultural Chemistry. Signed by : H. Bassett, G. H. Cheesman, D. Roy Maxted.
- †**Wallace, James Russell**, 8 Years Chemistry (gaining medal and honours) Heriot Watt College, 30 years experience in manufacture of fine chemicals. British. 36, Saughtonhall Avenue, Edinburgh, 12. Technical Chemist. Signed by : Wm. Mitchell, W. F. Martin, Donald C. Wilson.
- †**Warne, Harry**, M.Sc.Tech. (Manc.), A.R.I.C., M.Inst.F. British. 6, Thornton Avenue, Audenshaw, Manchester. Technical Control Manager, Peter Spence & Sons, Ltd. Signed by : J. H. Harwood, J. Chatt, W. Cule Davies.

- (b) **Weston, Vivian John**. National Certificate of the R.I.C. British. The Tynings, Chew Stoke, nr. Bristol. Junior Chemist at Messrs. Wm. Butler & Co., Ltd. *Signed by* : Leonard A. Bush, H. D. Springall, Arthur Marsden.
- † **White, Arthur Southan**, B.Sc. (Lond.), A.R.I.C., A.M.I.Chem.E. British. 6, Tansley Road, Crumpsall, Manchester, 8. Chemical Engineer. *Signed by* : W. R. H. Hurlley, W. J. Evans, S. G. Jarrett.
- † **Whyatt, Gilbert Henderson**, B.Sc.Hons. (Manc.), A.M.I.Chem.E., A.R.I.C. British. Suffolk Chemical Co., Ltd., Ipswich. Manager. *Signed by* : Colin Campbell, J. B. M. Herbert, A. E. Gillam.
- Wilson, Harry**, A.R.I.C. English. 18, Clifton Crescent, Wheatley Hills, Doncaster. Chemist with British Bemberg, Ltd. *Signed by* : G. Lawton, R. Leslie Collett, H. H. Hodgson.
- † **Wood, Cyril Christian**, M.Sc. (Lond.), A.R.C.S., D.I.C., F.R.I.C. British. 27, King Edward's Road, Ware. Chief Assistant Research Chemist to Allen & Hanburys, Ltd. *Signed by* : C. J. Eastland, Norman Evers, Wilfred Smith.

#### UNDER SPECIAL PROVISION APPERTAINING TO CANDIDATES RESIDENT ABROAD.

- ‡ **Dreger, Emil E.**, B.S. (North-western), M.S. and Ph.D. (Illinois). United States citizen. Colgate-Palmolive-Peet Co., 105, Hudson Street, Jersey City 2, N.J. Director of Research. *Signed by* : Foster Dee Snell.
- ‡ **Mitchell, Harold Senior**, B.S. (Syracuse). American. Research Laboratories, Swift and Company, U.S. Yards, Chicago, 9. Chief Chemist. *Signed by* : Foster Dee Snell.
- † **Munday, Charles Walter**, B.Sc. (Lond.). British. 119, Swingate Lane, Plumstead, S.E. 18. F/O R.A.F. (Navigator). Civil Occupation, Chemist with Chemical Inspection Department, Ministry of Supply. *Signed by* : L. A. Warren, K. Ebbutt.
- † **Palmer, Charles Wilfred**, B.Sc.Tech. (Manc.), F.R.I.C. English. 1401, McGill College Avenue, Montreal. Vice-President, Canadian Celanese, Ltd., Montreal. *Signed by* : Leon Lorti, Ivan R. McHaffie.
- (b) **Seshadri, Pennathur**, B.Sc.Hons. (Madras). British. Department of General Chemistry, Indian Institute of Science, Malleswaram, Bangalore. Undergoing a course and training in chemical engineering at the Indian Institute of Science, Bangalore. *Signed by* : T. R. Seshadri.
- ‡ **White, William Harold**, M.A. (Western Ontario), Ph.D. (McGill), Seven years' research work at National Research Council, Ottawa. Canadian. 950, St. Urbain Street, Montreal. Director of Research. *Signed by* : Leon Lorti, Ivan R. McHaffie.
- Whitworth, Edward Stanley**. British. 24, Worsley Bridge Road, Sydenham, S.E. 26. Assistant Chemist, Molassine Co. At present serving with R.A.F. overseas. *Signed by* : E. S. F. Rogans.

\* Reduced annual subscription.  
(‡) Two-body.

† Three-body.

(a) Junior Membership two-body,  
(b) Junior Membership three-body.

#### PAPERS RECEIVED

List of papers received between December 20th, 1944, and January 18th, 1945. This list does not include the titles of papers which have been read at a Scientific Meeting or which have appeared in the *Journal*.

- "Alkyl derivatives of sulphapyridine." By W. KELLY and W. F. SHORT.
- "Catalytic hydrogenation of pyrene." By J. M. L. CAMERON, J. W. COOK, and W. GRAHAM.
- "Polycyclic aromatic hydrocarbons. Part XXX. Synthesis of chrysenols." By J. W. COOK and (Miss) R. SCHOENTAL.
- "Experiments on the synthesis of the pyrethrins. Part I. Synthesis of chrysanthemum monocarboxylic acid." By (Miss) I. G. M. CAMPBELL and S. H. HARPER.
- "Researches in the phenanthridine series. Part VI. The relationship between structure and trypanocidal properties." By L. P. WALLS (with a note by C. H. BROWNING, K. M. CALVER, and M. W. LECKIE).
- "An 'ortho effect' in the formation of thionaphthenopyrazoles." By (the late) E. W. McCLELLAND and P. W. SMITH.
- "The reaction of some arylsulphonylbenzothiazolones with acetic anhydride and potassium acetate." By F. S. FOWKES and (the late) E. W. McCLELLAND.
- "Molecular volume and structure. Part IX." By T. W. GIBLING.
- "4-(4'-Aminobenzenesulphonamido)resorcinol and some related compounds." By D. H. BARTON, W. H. LINNELL, and N. SENIOR.
- "Synthesis of 4-hydroxy-5:6-(2':3'-pyrido)quinoline (4-hydroxy-*m*-phenanthroline)." By W. O. KERMACK and W. TEBRICH.
- "Synthetical and stereochemical investigations of reduced cyclic bases. Part I. Hydrogenation products of indole and the exhaustive methylation of an *N*-methyloctahydroindole." By F. E. KING, J. A. BARLTROP, and R. J. WALLEY.
- "Some green pigments of the phthalocyanine series." By J. W. HAWORTH, I. M. HEILBRON, D. H. HEY, R. WILKINSON, and (the late) E. F. BRADBROOK.
- "Synthesis of derivatives of taurinamide." By A. A. GOLDBERG.
- "The stereoisomeric  $\alpha\alpha'$ -di- $\alpha$ -naphthylsuccinic acids." By F. E. KING and T. HENSHALL.



# THE CHEMICAL SOCIETY

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## NOTICE OF FORTHCOMING SCIENTIFIC MEETINGS

IN LONDON (Burlington House).

Thursday, March 15th, 1945, at 2.30 p.m.

**Liversidge Lecture** on "Reactions in Monolayers," by Professor E. K. Rideal, M.B.E., M.A., D.Sc. F.R.S.

Thursday, April 19th, 1945.

**Annual General Meeting** and the **Presidential Address**. (Further particulars will be announced.)

### OUTSIDE LONDON.

#### LEEDS.

Tuesday, March 6th, 1945, at 5.15 p.m.

5.15 p.m. Film entitled "Sulphonamide Therapy."

6.0 p.m. Light refreshments.

6.30 p.m. Discussion on "The Repercussions of Modern Theoretical Developments on the Methods of Teaching Chemistry in Schools," to be opened by Professor F. G. Tryhorn.

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

#### MANCHESTER.

Friday, March 2nd, 1945, at 6 p.m.

**Lecture** on "The Chemical Structure of Starch," by Professor E. L. Hirst, D.Sc., F.R.S. To be held in the Grand Hotel, Aytoun Street. Joint meeting with the local sections of the Royal Institute of Chemistry and the Society of Chemical Industry.

Thursday, March 22nd, 1945, at 6 p.m.

**Liversidge Lecture** on "Reactions in Monolayers," by Professor E. K. Rideal, M.B.E., M.A., D.Sc., F.R.S. To be held in the Chemistry Department of the University. Joint meeting with the local sections of the Royal Institute of Chemistry and the Society of Chemical Industry.

#### ST. ANDREWS AND DUNDEE.

Thursday, April 26th, 1945, at 4.30 p.m.

**Lecture** on "The Structure and Chemistry of Metallic Crystals," by Professor G. D. Preston, Sc.D. To be held in the Chemistry Department, University College, Dundee.

# PROCEEDINGS OF THE CHEMICAL SOCIETY.

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## Minutes of a SCIENTIFIC MEETING

held at Burlington House, Piccadilly, W. 1, on Thursday, February 15th, 1945, at 2.30 p.m.

Professor A. FINDLAY, M.A., D.Sc., Vice-President, was in the Chair, and welcomed the visitors present.

### MINUTES.

The minutes of the Scientific Meeting of January 18th were read and were confirmed and signed.

### FORMAL ADMISSION OF FELLOWS.

The following were formally admitted Fellows of the Chemical Society: W. C. Wetherell, W. A. Bayliss, W. Haining, M. Elliott, James S. Moffatt, Audrey R. Hawdon, Paul Jefferies, Erika Grunberg.

### SCIENTIFIC COMMUNICATIONS.

The following papers were read:

- "Molecular compounds between amines and sulphur dioxide. A comment on Jander's theory of ionic reactions in sulphur dioxide." By L. C. BATEMAN, E. D. HUGHES, and C. K. INGOLD.
- "Experiments on the synthesis of the pyrethrins. Part I. Synthesis of Chrysanthemum monocarboxylic acid." By S. H. HARPER.
- "Studies on the chemical constitution of colchicine." By N. BARTON, G. L. BUCHANAN, J. W. Cook, W. GRAHAM, and J. D. LOUDON..

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## OFFICIAL ANNOUNCEMENTS

### DEATHS.

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

	Elected.	Died.
Guy Dunstan Bengough .....	1902	January 20th, 1945.
James Kerry Burbridge .....	1896	January 27th, 1945.
Sir Ernest H. Cook .....	1875	January 18th, 1945.
Alexander Duckham .....	1897	February 1st, 1945.
Douglas Archibald MacCallum .....	1902	January 26th, 1945.
Harry Sampson Wills .....	1909	August 24th, 1942.
Jason Hall Worrall .....	1884	January 1st, 1945.
	Killed in Action.	
Capt. George C. Miller .....	1938	October 9th, 1944.

### CONGRATULATIONS.

The Council have sent congratulations to the following Fellows who completed 50 years of Fellowship on February 21st, 1945:

David B. Butler.  
Francis H. Carr.  
Harry Harris.  
Arthur Marshall.

Thomas C. Sharrott.  
Herbert F. Stephenson.  
Thomas C. Warrington.  
Henry S. Young.

**ACKNOWLEDGMENTS.**

The thanks of the Council have been conveyed to Messrs. F. Bergel, A. F. Campbell, A. J. Crockatt and A. P. Mieras for presenting publications of the Society, to Messrs. A. F. Campbell and G. W. Young for contributions to the Publications Fund, and to Sir E. John Russell for presenting a number of letters received by him from prominent Fellows.

**RESEARCH GRANT.**

A grant of £50 has been made to Dr. G. V. Raynor for a research on "The Constitution and the Theory of the Alloys of Aluminium with Transitional Metals."

**NOMINATIONS FOR VACANT PLACES ON THE COUNCIL.**

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

**Vive-Presidents who have not filled the office of President. (Three vacancies.)**

ARTHUR J. ALLMAND.	(London.)	HAMILTON McCOMBIE.	(Cambridge.)
JAMES W. COOK.	(Glasgow.)	RONALD G. W. NORRISH.	(Cambridge.)
IAN M. HEILBRON.	(London.)	JOHN L. SIMONSEN.	(London.)
JAMES KENDALL.	(Edinburgh.)		

**Ordinary Members of Council.****Constituency I. (S.E. England.) (Three vacancies.)**

RONALD P. BELL.	(Oxford.)	RAYMOND J. W. LE FEVRE.	(London.)
WILLIAM JAMES M. COOK.	(London.)	ALEXANDER R. TODD.	(Cambridge.)
ERNEST H. FARMER.	(London.)	HAROLD KENNETH WHALLEY.	(London.)
STANLEY H. HARPER.	(Southampton.)		

**Constituency II. (Central & S.W. England.) (Three vacancies.)**

WILSON BAKER.	(Bristol.)	CECIL W. DAVIES.	(Aberystwyth.)
HUBERT T. S. BRITTON.	(Exeter.)	MAURICE STACEY.	(Birmingham.)

**Constituency III. (N.W. England, N. Wales, & Isle of Man.) (Two vacancies.)**

DONALD H. HEY.	(Wilmslow.)	WILLIAM A. SEXTON.	(Manchester.)
DOUGLAS W. HILL.	(Manchester.)	FRANK S. SPRING.	(Manchester.)

**Constituency IV. (N.E. England.) (One vacancy.)**

BRYNMOR JONES. (Sheffield.)

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

JOHN MONTEATH ROBERTSON. (Glasgow.)

**FELLOWSHIP.**

The following 57 candidates were elected Fellows of the Chemical Society on January 18th, 1945 :

Sidney Cyril Abrahams.	Eva Maria Dresel.	Josiah Alexander Lyons.
Winifred Elisabeth Adams.	William George Henry Edwards.	William Roderick McLean.
James Barrett.	George Noble Spencer Farrand.	Alice Amy Matthews.
William Alfred Bayliss.	Bernard Arterton Forder.	Joseph Mayer.
William Gordon Bennett.	James Alan Friend.	Philip Reginald Monk.
John Howard Benney.	Alphonse Michael Ghyselink.	Gwendoline Muriel Owen.
Victor Biske.	Frederic Leathley Goodall.	Wilfred John Parker.
Norman Blakebrough.	William Haining.	Frederick Henry Plaster.
John Brinley Bowen.	Cyril George Hawkins.	Harold William Charles Powell.
Francis Edward Husband	Fred Heyworth.	Charat Ram.
Bradburne.	Roy William Hodgkinson.	Felix Schwarz.
Roy Denys Brearley.	Kenneth Howe.	Ian Harold Slicer.
Edgar George Brickell.	Herbert John Jones.	Helmut Strauss.
Herbert Catlow.	Pandurang Narayan Joshi.	Adam Tait.
Peter Trevisa Clarke.	Alexander Duncan Kemp.	Joyce Tyler.
Denis Coleman.	Edward Kenefec.	Vincent Watson.
Arthur Stanley Cook.	George Wallace Kenner.	Kenneth Edward Weale.
Norman Couch.	George Leslie Kington.	Walter Cecil Wetherell.
Cyril Sidney Cull	Kenneth Lees.	
Edna Mary Davidson.	Ernest Levy.	

## PUBLICATIONS OF THE AMERICAN CHEMICAL SOCIETY.

	Price to Public.	Postage.
(1) <i>Journal of the American Chemical Society</i> .....	\$8.50	\$1.50
(2) <i>Chemical Abstracts</i> .....	\$12.00	\$2.40
(3) <i>Industrial and Engineering Chemistry</i> :		
(a) Industrial Edition (monthly) and Analytical Edition (monthly), sold only as a unit .....	\$4.00	\$2.25
(b) Chemical and Engineering News (semi-monthly) .....	\$2.00	\$0.60
(a) and (b) together .....	\$6.00	\$2.85

A discount of 10 per cent. is allowed on (1) and (2) when sent to same address and ordered at the same time. No discount on (3).

A special discount of 10 per cent. off all the above prices (exclusive of postage) is allowed to Fellows of the Chemical Society who are not Members of the American Chemical Society.

Fellows residing in Canada pay one-third postage rates and for those residing in countries in the Pan-American Union and Spain there is no charge for postage.

Application should be made direct to the Secretary, American Chemical Society, 1155, Sixteenth Street, N.W., Washington, D.C., U.S.A.

<i>Chemical Reviews</i> (bi-monthly, 2 vols. per year) .....	{ \$4.00 per vol. }	postage
	{ \$7.00 per year. }	\$0.50 per vol.

Application should be made to the Williams and Wilkins Company, Mount Royal and Guilford Avenues, Baltimore, Md., U.S.A.

NOTE.—Permission to remit money abroad must be obtained through a Bank.

The American Chemical Society is now prepared to accept new subscriptions for a limited period.

## 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, March 26th, 1945. Such objections will be treated as confidential. The forms of application are displayed in the Library.)

- \***Asquith, Raymond Smith.** Oxford and Cambridge Higher School Certificate. British. 9, Stony Lane, Eccleshill, Bradford. Student, Oriol College, Oxford. *Signed by* : Ronald P. Bell, D. Ll. Hammick, L. E. Sutton.
- (b)**Bates, William Kenneth.** British. Chemist, Chemical Inspection Department, Ministry of Supply. *Signed by* : W. H. Hadley, J. R. Gwilt, R. Sagar.
- \***Battersby, Alan Rushton.** British. Dalton Hall, Victoria Park, Manchester, 14. Student at the University of Manchester. *Signed by* : H. T. Openshaw, M. Polanyi, F. Fairbrother.
- †**Boothman, Norah,** B.Sc. (Leeds), A.R.I.C. British. 36, Cutenhoe Road, Luton. Teacher of Chemistry at Luton Technical College. *Signed by* : Peter F. Barker, C. H. Price, W. A. Wightman.
- \***Bowes, Emmerson.** Ordinary National Certificate R.I.C. British. 119, Princes Road, Ellesmere Port, Wirral. Laboratory assistant in Research and Development Laboratory of Lobitos Oilfields, Ltd. *Signed by* : V. Biske, F. S. Archer, L. McGrath.
- \***Boyd, Daniel Robert John.** British. 60, Worcester Road, E. 17. Student and Laboratory Assistant. *Signed by* : E. de Barry Barnett, R. C. Watkins, Cecil L. Wilson.
- †**Briggs, Arthur Stanley,** B.A., and B.Sc. (Oxon.). British. 76, Arbory Avenue, Moston, Manchester, 10. Research Chemist. *Signed by* : W. Baker, H. A. Piggott, H. E. Jackson.
- †**Bromley, Willfred,** A.R.I.C. British. 1, Newborough Avenue, Great Crosby, Liverpool, 23. Works Manager and Analytical Chemist. *Signed by* : A. E. Findley, A. McGookin, Francis W. Kay.
- (b)**Campbell, George,** B.Sc.Hons. (Edin.). British. 42, Learmonth Grove, Comely Bank, Edinburgh. Assistant Superintendent, Imperial Chemical Industries (Explosives), Ltd. *Signed by* : Neil Campbell, E. G. V. Percival, W. J. Jenkins.
- (b)**Carter, Philip Rufus,** B.Sc.Hons. (Lond.), A.R.C.S., A.R.I.C. British. c/o British Schering Research Institute, Brook Lane, Alderley Edge. Research Chemist. *Signed by* : D. H. Hey, E. R. H. Jones, A. H. Cook, L. N. Owen.
- †**Chalmers, James,** B.Sc. (Edin.). Scottish. 4, Angle Park Terrace, Edinburgh, 11. Assistant Chemist, Ministry of Supply factory. *Signed by* : Walter S. Cockayne, A. Scott Dodd, E. G. V. Percival, Neil Campbell.
- (a)**Christian, Donald Boynton.** Northern Universities School Certificate. English. High Croft, 43, West Road, Lancaster. Analytical Laboratory Assistant. *Signed by* : R. A. Cowin, J. Fell, F. Bell.
- (b)**Cleley, Herbert Joseph,** B.Sc. (Lond.), A.R.I.C. British. Hayles, 63, York Avenue, Wolverhampton. Analytical Chemist, Messrs. Chance Bros., Ltd. *Signed by* : W. M. Hampton, H. L. Haigh, E. H. Joiner.
- †**Collinson, Harold Arthur,** A.R.I.C., M.P.S., Dip. Biochemical Analysis. British. c/o Leicester, Lovell & Co., Ltd., Ebley Mills, Stroud. Chief Chemist. *Signed by* : C. A. Redfarn, A. H. Stevens, J. H. Collins.
- \***Cross, Brian Edward,** B.Sc.Hons. (Lond.). English. Chiswell House, Edenbridge. Research Student at Queen Mary College, London University. *Signed by* : H. D. K. Drew, W. J. Palmer, J. R. Partington.

- †**Davenport, Harold**, Assoc. Manchester School Technology. British. The Southern Oil Co., Ltd. Chief Chemist  
*Signed by* : H. N. Griffiths, A. E. Williams, T. McLean.
- \***Dérias, Roger Edmond**, B.Sc.Hons. (Birm.). Swiss. 3, Bilton Rise, Bilton, Rugby. Research Chemist. *Signed by* : L. L. Bircumshaw, M. Stacey, Stanley Peat.
- †**Dodds, George Brown**, B.Sc. and Ph.D. (Edin.), A.R.I.C. British. 18, Alloa Road, Carron, Falkirk. Industrial Chemist. *Signed by* : George B. Yuille, A. G. Murray, C. W. N. Holmes.
- †**Emery, William Bryan**, B.Sc. (Lond.), A.R.I.C. British. Glaxo Laboratories, Ltd., Greenford. Research Chemist in Biochemical Laboratory. *Signed by* : F. A. Robinson, L. F. J. Parker, B. Arthur Hems.
- Evans, Herbert Charles**, B.Sc. and Ph.D. (Bristol). British. 13, Handford Avenue, Eastham, Wirral. Research Chemist. *Signed by* : A. McGookin, Philip J. Garner, C. H. Johnson.
- (b)**Evans, Rowland Arthen**, B.Sc.Hons. (Wales). British. Bryn Awel, Capel Bangor, nr. Aberystwyth. Research Chemist with the Crookes' Laboratories (British Colloids, Ltd.). *Signed by* : T. Campbell James, H. G. Poole, C. W. Davies.
- †**Felstead, Donald Robert William**, A.R.I.C. British. 75, Pondcroft Road, Knebworth. A Senior Chemist to Messrs. Roche Products, Ltd., fine chemical manufacturers. *Signed by* : Nathan C. Hindley, A. Cohen, F. Bergel.
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#### PAPERS RECEIVED

List of papers received between January 18th and February 15th, 1945. (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 determination of small amounts of aluminium in spelter." By F. F. POLLAK and E. F. PELLOWE.
- "The properties of freshly formed surfaces. Part V. A velocity-time equation for adsorption to dynamic surfaces." By C. C. ADDISON.
- "Experiments in the piperidine series. Part I." By A. H. COOK and K. J. REED.
- "Experiments in the cœroxene and cœramidine series." By A. H. COOK and W. WADDINGTON.
- "A new synthesis of olivetol." By R. M. ANKER and A. H. COOK.
- "Apparatus for microtitrations with a glass electrode." By J. R. CATCH, A. H. COOK, and J. A. KITCHENER.
- "On the theory of Brønsted's relation in acid-base catalysis." By J. WEISS.
- "Dipole moment, acidity, and stereomerism." By A. BURAWOY.
- "Low pressure isothermals and heats of sorption." By A. G. FOSTER.
- "The sorption of condensable vapours by porous solids. Part II. The validity of Gurwitsch's rule." By D. N. BROAD and A. G. FOSTER.
- "Comparative isothermals of H<sub>2</sub>O and D<sub>2</sub>O on porous solids." By D. N. BROAD and A. G. FOSTER.
- "Studies in the detoxication of catalyst poisons. Part I. General survey of some detoxicants." By E. B. MAXTED.
- "Nitration of 4-chloroquinaldine and 4-hydroxyquinaldine." By (Miss) B. E. HALCROW and W. O. KERMACK.
- "By-products in aromatic nitration. Part II. Nitration of diphenyl, quinoline, and benzophenone." By G. M. BENNETT and J. F. GROVE.
- "New syntheses of heterocyclic compounds. Part III. Azaphenoxazines." By V. A. PETROW and E. L. REWALD.
- "Colchicine and related compounds. Part V. The structure of Windaus's deaminocolchicol methyl ether." By N. BARTON, J. W. COOK, and J. D. LOUDON.
- "The metal-catalysed reaction between acetylene and hydrogen. Part III. Some effects of added substances on the reaction over nickel." By J. SHERIDAN.
- "The metal-catalysed reaction between acetylene and hydrogen. Part IV. Reaction over platinum." By J. SHERIDAN.
- "The rapid determination of copper in brass." By F. F. POLLAK and E. F. PELLOWE.
- "Compounds related to 4 : 4'-diaminodiphenylsulphone." By H. BURTON and E. HOGGARTH.
- "The action of thionyl chloride on 2 : 4-dimethylthiazole-5-carboxylic acid." By W. R. BOON.
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# THE CHEMICAL SOCIETY

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## NOTICE OF FORTHCOMING SCIENTIFIC MEETINGS

IN LONDON (Burlington House).

Thursday, April 19th, 1945.

The Hundred and Fourth Annual General Meeting of the Chemical Society will be held at Burlington House on Thursday, April 19th. At 11.30 a.m. 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 December 31st, 1944; (b) To declare the election of Professor H. V. A. Briscoe as Honorary Secretary and of Elected Ordinary Members of Council for Constituencies IV and V; (c) To receive the report of the Scrutators on the ballot for Vice-Presidents who have not filled the office of President, and for Elected Ordinary Members of Council for Constituencies I, II, and III, and to declare the names of the Fellows duly elected; (d) To appoint Auditors for 1945.

At 12.45 for 1 p.m. Luncheon will be held at Stewart's Restaurant (corner of Piccadilly and Old Bond Street), and the price will be five shillings and sixpence (5s. 6d.), including coffee and gratuities (payable at the restaurant).

At 2.30 p.m. The Longstaff Medal for 1945 will be presented to Professor N. V. Sidgwick, C.B.E., D.Sc., F.R.S., and the Harrison Memorial Prize for 1944 to Dr. Leslie F. Wiggins. The President, Professor W. N. Haworth, D.Sc., F.R.S., will deliver his Presidential Address entitled: "Starch."

Thursday, May 17th, 1945, at 5 p.m.

**Hugo Müller Lecture**, on "The Past and Future of Crystal Chemistry," by Professor J. D. Bernal, M.A., F.R.S. To be held in the Lecture Theatre of the Royal Institution, Albemarle Street, W. 1. (By kind permission of the Managers.)

### OUTSIDE LONDON.

ST. ANDREWS AND DUNDEE.

Thursday, April 26th, 1945, at 4.30 p.m.

**Lecture on** "The Structure and Chemistry of Metallic Crystals," by Professor G. D. Preston, Sc.D. To be held in the Chemistry Department, University College, Dundee.

### SHEFFIELD.

Friday, May 11th, 1945, at 6 p.m.

**Lecture on** "Recent Developments in Petroleum Technology," by Dr. A. E. Dunstan. Joint meeting with the University Chemical Society and the South Yorkshire Section of the Royal Institute of Chemistry. To be held at the University, Western Bank.

Friday, May 25th, 1945, at 6 p.m.

**Lecture on** "The Place of the Resonance Concept in Chemistry," by Mr. R. P. Bell, M.A., F.R.S. To be held at the University, Western Bank.

### SOUTH WALES.

At Cardiff.

Thursday, May 24th, 1945, at 7 p.m.

**Hugo Müller Lecture**, on "The Past and Future of Crystal Chemistry," by Professor J. D. Bernal, M.A., F.R.S. To be held at University College.

# PROCEEDINGS

OF THE

## CHEMICAL SOCIETY.

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### Minutes of a SCIENTIFIC MEETING

held at Burlington House, Piccadilly, W. 1, on Thursday, March 15th, 1945, at 2.30 p.m.

The PRESIDENT, PROFESSOR W. N. HAWORTH, D.Sc., F.R.S., was in the Chair, and welcomed the visitors present.

#### MINUTES.

The Minutes of the Scientific Meeting of February 15th, 1945, were taken as read and were signed.

#### FORMAL ADMISSION OF FELLOWS.

The following were admitted Fellows of the Chemical Society : G. W. Wrzeszinski, I. G. C. Dryden, G. Kohnstam, Helmut Strauss, Joyce W. E. Brading, W. A. Smeaton, P. A. Griffin, R. J. Cole, Frank Shedden.

#### LIVERSIDGE LECTURE.

After a brief introduction, the President called on Professor E. K. Rideal, F.R.S., to deliver the Liversidge Lecture, entitled " Reactions in Monolayers."

At the conclusion of the lecture, a vote of thanks to the Lecturer, proposed by PROFESSOR A. FINDLAY, was carried with acclamation.

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### OFFICIAL ANNOUNCEMENTS

#### DEATHS.

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

	Elected.	Died.
John Ewart Trounce Barbary .....	1911	February 5th, 1945.
Marmaduke Barrowcliff .....	1905	March 7th, 1945.
Wilbraham Tollemache Arthur Edwards .....	1898	Early in 1944.
Oliver Quibell.....	1886	February 19th, 1945.
Sir Duncan Randolph Wilson .....	1901	March 1st, 1945.

#### CONGRATULATIONS.

The Council have sent congratulations to Mr. Walter Collingwood Williams, who completed 60 years of Fellowship on March 5th.

#### HONORARY FELLOWS.

The following have been nominated by the Council as Honorary Fellows of the Society :

Sir Henry H. Dale, O.M., G.B.E., P.R.S.  
Professor V. M. Goldschmidt.  
Professor Frederic Joliot.  
Professor Harold C. Urey.

Fellows wishing to lodge objections to the election of these should communicate with the Honorary Secretaries not later than Monday, May 14th, 1945.

#### ACKNOWLEDGMENTS.

The thanks of the Council have been conveyed to :

- (a) Dr. F. H. Carr for a contribution to commemorate his completion of 50 years of Fellowship.
- (b) Messrs. A. J. Clement, T. H. Hills, and W. H. Woodcock for presenting publications of the Society.
- (c) The Faraday Society and the Institute of Brewing for contributions to the Library.

**RESEARCH GRANTS.**

Grants of £20 and £15, respectively, have been made to Mr. E. A. Braude (Imperial College) for a research on "Substituent effects in the oxotropic formation of the styrene system," and to Mr. Hugh W. B. Reed (University College, Southampton) for a research on "Experimnts in the synthesis of pyrethrins."

**ELECTION OF SCRUTATORS.**

Dr. Mary S. Lesslie and Mr. L. S. Theobald have been appointed Scrutators to examine the voting papers for Vice-Presidents who have not filled the office of President and for Elected Ordinary Members of Council for Constituencies I, II and III.

**FELLOWSHIP.**

The following 107 candidates were elected Fellows of the Chemical Society on February 15th, 1945 :

William Christopher Abbott.	Steffi Guttmann.	Stanley Richard Robinson.
Lewis Charles Anderson.	Roy Hammond.	Ian Kenneth Miles Robson.
Paul Arnall.	Cedric Herbert Hassall.	John Rogers.
Eric George Victory Barrett.	Levi Mellor Hill.	Frank Savage.
Arthur Baxter.	Gwendoline Ruth Hilldrith.	Walter Thomas Sedley.
Roger John Sidney Beer.	David Oliver Holland.	Pennathur Seshadri.
Charles Montague Bere.	John Arthur Homer.	Joseph Silverton.
Tom Harry Bevan.	Thomas Edward Victor Horsley.	Derek Bryce Smith.
Warwick Bottomley.	William Howieson.	Mervyn John Hillier Smith.
Eric Arthur Boyce.	Raymond George Humphreys.	Walter Rahe Smithies.
Thomas Gerard Brady.	Thomas Hutchison.	Edmondson Spencer.
Charles Broomhead.	Gerald Charles Hutton.	Edward Severin Stern.
Sydney Glenroy Campbell.	Donald William Ingram.	Donald MacPherson Stewart.
George Humfrey Neville Chamberlain.	Anthony Harmsworth Kaye.	Eric Sidney Stockton.
Frank Chapman.	Hugh Edward Kelly.	Henry Stout.
Sylvester John Herbert Owen Chard.	Ernest Kilner.	John Clifford Street.
Romney Coles.	Jack Lawrence.	John Douglas Hipwell Strickland.
Richard Michael Comely.	David Lockwood London.	Bennett Sturgeon.
Raphael Conden.	Kenneth William Longbottom.	Gordon Swift.
Edward Vincent Cooke.	Archibald T. Mackie.	Malcolm Henry Tankard.
Ronald Lifton Cooper.	Ian Marshall.	Alfred McMullon Taylor.
Victor Terrell Crowl.	Lawrence MacKenzie Miall.	Brian Richard John Thomas.
Keith Dalziel.	Ronald Bruce Miller.	William David Emrys Thomas.
John Keith Dawson.	James Mills.	George Thompson.
Joseph James Doyle.	Harold Senior Mitchell.	Alfred Hubert Thorneloe.
Emil E. Dreger.	John Mitchell.	Charles Frank Howlett Tipper.
Leonard Cartlidge Dutton.	Frank Anthony James Moss.	Cyril Tyler.
Ben Edgington.	Charles Walter Munday.	James Russell Wallace.
David Wilfred Shawyer Evans.	George Frederick Neesham.	Harry Warne.
John Pindar Firrell.	Norman Olsen.	Vivian John Weston.
John Henry Ford.	William John Owen.	Arthur Southan White.
Robert Alexander Fraser.	Philip George Owston.	William Harold White.
Frank Gardner.	Charles Wilfred Palmer.	Edward Stanley Whitworth.
William Ewan Gibbon.	Maurice Herbert Pearson.	Gilbert Henderson Whyatt.
Dennis Gordon-Teall.	John Bescoby Poole.	Harry Wilson.
	John Prosser.	Cyril Christian Wood.

**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, May 14th, 1945. Such objections will be treated as confidential. The forms of application are displayed in the Library.)

- (b) **Adlington, Dennis**, B.Sc.Hons. (Sheffield). English. 7, Northumberland Avenue, Isleworth. Research Chemist, Anglo Iranian Oil Co. Signed by : R. D. Haworth, E. Gertrude Turner, Brynmor Jones.
- † **Airey, Leslie**, B.Sc.Hons. (Lond.), A.R.I.C. British. 26, Westmorland Avenue, Welling. Analytical and Research Chemist. Signed by : A. S. Nickelson, E. Taylor, E. W. S. Press.
- † **Albans, John William**, B.Sc.Hons. (Lond.), A.R.I.C. British. 127, Hawton Crescent, Wollaton Park, Nottingham. Industrial Biochemist. Signed by : John R. Jarratt, H. Barnes, B. Garforth.
- † **Buckley, Clarence Fairbank**, B.Sc. (Lond.), A.R.I.C. British. 228, Perth Road, Ilford. Research Chemist, Howards & Sons, Ltd. Signed by : Walter E. Huggett, R. H. Lock, George Clark.
- \* **Burgan, John Glyn**. British. 83, Elmham Road, Darnall, Sheffield, 9. Undergraduate reading for Honours Degree in Chemistry at Oxford University. Signed by : N. V. Sidgwick, P. R. Lewis, John Gadsby.

- (b) **Carson, Robert George**, B.Sc.Hons. (Glas.), A.R.T.C., A.R.I.C. British. Bonsecours, 6, Kilbrannan Drive, Greenock. Chemist with the Shell Refining and Marketing Co., Ltd. *Signed by* : Ezra Golombok, Edmund Bishop, John A. Cranston.
- † **Chapman, Wilfred Eric**, B.Sc.Hons. (Leeds), A.R.I.C. British. 66, Penns Lane, Sutton Coldfield. Works Chemist at Messrs. Ernest Hawton & Co. *Signed by* : R. Conden, L. F. Story, S. Blackburn.
- † **Clarke, Herbert Edmund**, M.A. and B.Sc. (Oxon), F.R.I.C. British. 14, Rosehill Mount, Manchester Road, Burnley. Chief Research Chemist. *Signed by* : John Graymore, E. G. Edwards, A. G. Owen.
- Davidson, Hugh Wilson**, B.Sc.Hons. (St. Andrews). British. 25, Kinkell Terrace, St. Andrews. Assistant Chemist at Guardbridge Paper Co., Ltd. *Signed by* : W. H. Banks, G. A. H. Elton, M. P. Balfe.
- † **Downer, Archibald Walter Eric**, B.Sc.Hons. and Ph.D. (Lond.), A.R.I.C. British. 3, Ivycliffe Drive, Farnborough. Research Chemist. *Signed by* : A. P. L. Blaxter, S. G. Kendrick, A. J. M. Bailey.
- † **Faulks, Allan James**, B.Pharm. (Lond.), A.R.I.C., Ph.C. British. Elmsdale, Kilmarnock Road, Kilmaurs. *Signed by* : A. G. Short, R. Leslie Collett, J. F. Gospel.
- \* **Fry, Eric Sydney John**, B.Sc. (Lond.). British. 476, Devides Road, Salisbury. Research Chemist. *Signed by* : H. N. Rydon, K. P. Harrison, D. W. Adamson.
- ‡ **Gadsby, Gordon Neville**, B.Sc.Hons. and Dip.Ed. (Birm.). British. Maytrees, East Green Drive, Stratford-upon-Avon. Lecturer, Chemistry Branch, Military College of Science. *Signed by* : W. N. Haworth, E. L. Hirst, E. B. Knott.
- Gindy, Munir**, B.Sc.Hons. and M.Sc. (Fouad I University). Egyptian. Chemistry Department, Faculty of Science, Fouad I University, Abbassia, Cairo. Demonstrator in Chemistry. *Signed by* : Alexander Schönberg, A. Riad Tourky, F. G. Baddar.
- Hey, Peter**, Ph.C. British. Carhouse, Boroughbridge Road, Upper Poppleton. Assistant Lecturer in Department of Pharmacy and Pharmacology, University of Leeds. *Signed by* : F. R. Goss, F. Challenger, H. Burton.
- ‡ **Hicks, Ronald**, A.R.T.C. (Salford), Higher National Certificate, Member Institute Sewer Purification, Associate Member Institute Sanitary Engineers. British. Burgh of Hamilton Sewage Purification Works, Bothwell Bridge, Bothwell, Glasgow. Works Manager and Chemist. *Signed by* : Clarence Jepson, Arnold Kershaw, C. B. O. Jones.
- Hills, George Mason**, M.A. and B.Sc. (Oxon), A.R.I.C. British. Church House, Pitton, Nr. Salisbury. Research Biochemist on staff of Medical Research Council. *Signed by* : H. N. Rydon, J. Howarth Williams, G. S. Hartley.
- \* **Holker, James Ronald**, B.Sc.Hons. (Manc.). British. 48, Algernon Street, Monton, Eccles. Junior Chemist. *Signed by* : Colin Campbell, Lewis K. Evans, F. S. Spring, G. N. Burkhardt, T. H. H. Quibell.
- † **Isherwood, Robert**, B.Sc.Hons. (Manc.), A.R.I.C. English. 170, Shear Brow, Blackburn. Organic Chemist. *Signed by* : C. G. Childs, D. S. Stephens, F. Ward.
- † **Jarvis, Frank Woolgar**, B.Sc.Hons. (Sheffield), A.R.I.C. British. 130, Furniss Avenue, Dore, Sheffield. Research Chemist. *Signed by* : R. D. Haworth, Arthur W. Chapman, Brynmor Jones.
- † **Jones, Frederick Victor**, B.Sc.Hons. (Lond.). British. 3, Dolphin Road, Slough. Research Chemist. *Signed by* : Robert Kerr, Ernest S. Hedges, Denis E. B. Greensmith.
- † **Joseph, James Dillwyn**, A.R.I.C., P.A.Inst.W.E. British. Gladwyn, 421, Hyde Road, Gorton, Manchester, 18. Chemist and Bacteriologist, Manchester Corporation Waterworks. *Signed by* : H. Stevenson, W. H. Brindley, J. Kenner.
- \* **Kaye, Albert Edward**. British. 32, Lauriston Road, Walton, Liverpool, 4. Reading for Honours Degree in Chemistry at Oxford University. *Signed by* : S. G. P. Plant, A. S. Russell, C. N. Hinshelwood.
- (b) **Kennington, Austin William**, B.Sc.Hons. (Birm.) conditional upon satisfying language requirement. British. 31, Victoria Road, Mortlake, S.W. 14. Research Chemist for British Rubber Producers Research Association. *Signed by* : E. H. Farmer, D. A. Sutton, G. F. Bloomfield.
- (a) **Kennington, Kenneth Walter Lloyd**. National Certificate in Chemistry. British. 4, Woodville Street, Woolwich, S.E. 18. Technical Assistant (Chemical Research) Ministry of Supply. *Signed by* : Arthur I. Vogel, G. H. Jeffery, F. Hudswell.
- ‡ **Kerr, Carl Aloysius**, Ph.D. (Glas.), D.Sc. (Belfast), F.R.I.C. British. 14, Sherrardspark Road, Welwyn Garden City. Works Manager, Roche Products, Ltd. *Signed by* : Nathan C. Hindley, F. Bergel, A. Cohen.
- † **Laxton, Albert Edward**, B.Sc.Hons. and M.Sc. (Lond.), A.R.I.C. British. 116, Lynmouth Road, Walthamstow, E. 17. Organic Chemist (Research), Messrs. Field & Co. (Aromatics), Ltd. *Signed by* : W. H. Shilling, R. Leslie Collett, H. J. T. Ellingham.
- ‡ **Lee, Oscar Martin**. Student, Leatherseller's Company's Technical College, University of London, Battersea Polytechnic. Fifteen years experience in Food Manufacture, water treatment and sanitation in tropics. Army Officer in charge of food and water treatment and supply. English. c/o Professor Sir William Wright Smith, F.R.S.E., Inverleigh House, Edinburgh, 4. Captain, The Royal Army Service Corps. *Signed by* : J. Kenyon, A. Houston, W. Rogie Angus.
- \* **Lord, Derek Drury**, B.Sc. (Lond.). British. Lyndhurst, 8, Cambridge Avenue, Bury Road, Rochdale. Research Student. *Signed by* : C. K. Ingold, H. G. Poole, E. S. Halberstadt.
- † **Lucas, John Waring**, B.Sc. (Lond.), A.R.I.C. British. 39, Forest Road, Southport. Senior Technical Assistant. *Signed by* : Charles Loudon, Harold H. Hutt, H. Jaspersen.
- † **McIntosh, Andrew Hamilton**, B.Sc.Hons. (Edin.). British. c/o Department on Insecticides, Rothamsted Experimental Station, Harpenden. Insecticides Chemist. *Signed by* : F. Tattersfield, K. A. Lord, George W. Cooke.
- (b) **Martin, Leslie Edwin**. Student Royal Institute of Chemistry. British. 10, Hall Avenue, Timperley. Laboratory Assistant (Pathological) in the Medical Service. *Signed by* : J. Ormston, H. B. Watson, Marion T. King.
- † **Monk, Robert George**, B.Sc.Hons. and Ph.D. (Lond.), A.R.C.S., D.I.C., A.R.I.C. British. 116, Argyle Road, Saltcoats. Chemist. *Signed by* : H. Raymond Broomhall, A. Greville White, David Traill.
- Morris, Douglas Sydney**, B.Sc. (Lond.), A.R.C.S. Six years pre-graduate industrial experience (Plant control and analytical work). Three and a half years as an organic research chemist. British. Greenhurst, Bollin Hill, Wilmslow. Organic research chemist (chemotherapeutics) at British Schering Research Laboratories. *Signed by* : D. H. Hey, M. E. H. Fitzgerald, W. Tebrich.
- † **Munro, Leslie Alexander**, M.A. (Oxon), F.R.I.C. British. Eagle House, Colston Avenue, Bristol, 1. Area Manager, Imperial Chemical Industries, Ltd. *Signed by* : Arthur Marsden, E. B. Macted, F. H. Pollard.

- (b) **Naish, Arthur Basil**, A.R.I.C. British. 48, Cleeve Hill, Downend, Bristol. Analytical Chemist. *Signed by* : E. B. Maxted, G. Davies, D. J. Barke.
- \* **Neale, Francis Charles**, B.Sc.Hons. (Birm.). British. 86, Bournbrook Road, Bournbrook, Birmingham, 29. Research Student. *Signed by* : L. L. Bircumshaw, W. N. Haworth, M. Stacey.
- † **Norton, Charles Roy**, London Inter.B.Sc. (External), 7½ years practical experience. British. 7, Beck Lane, Carlinghow, Batley. Works Chemist at L. B. Holliday & Co., Ltd. *Signed by* : H. H. Hodgson, D. E. Hathway, H. S. Greenwood.
- O **Dea, Louis**, Inter.B.Sc. (Lond.). Student, Special Chemistry B.Sc., London. British. Salesian Missionary College, Shrigley Park, Nr. Macclesfield. Science Teacher. *Signed by* : A. E. Gillam, F. S. Spring, T. H. H. Quibell.
- (a) **Osman, William Anthony**, British. Bulls Green, Knebworth. Student. *Signed by* : H. V. A. Briscoe, A. A. Eldridge, H. J. Emeléus.
- † **Preston, Richard St. John**, B.Sc.Hons. and M.Sc. (L'pool), F.R.I.C. British. 24, Boundaries Road, Feltham. Scientific Officer (Civil Service). *Signed by* : W. H. J. Vernon, J. G. Mitchell, F. Wormwell.
- ‡ **Ridgion, James Maurice**, B.Sc. (Lond.), A.R.C.S. British. c/o The British Iron and Steel Research Association, Steel House, Tothill Street, S.W. 1. Research Officer (Iron and Steel Production). *Signed by* : A. H. Leckie, H. E. Blyden, H. L. Riley.
- \* **Russell, Kenneth Edwin**, Natural Sciences Tripos Part II, Chemistry, Class 2, Division I. British. Memorial Court, Clare College, Cambridge. Research Student. *Signed by* : F. S. Dainton, Donald Faulkner, R. G. W. Norrish.
- Smith, Harry**, B.Sc. and B.Pharm. (Lond.), A.R.I.C., Ph.C. British. c/o 85, Welford Crescent E., Trent Bridge, Nottingham. Assistant Lecturer in Pharmaceutical Chemistry at University College, Nottingham. *Signed by* : J. Masson Gulland, E. O'F. Walsh, D. O. Jordan.
- † **Smith, Peter Robert William**, A.R.I.C. British. 28, Wayside, East Sheen, S.W. 14. Director of Research, Alumilite and Alzak, Ltd. *Signed by* : W. M. Cumming, M. M. J. Sutherland, I. V. Hopper.
- † **Snowden, Arthur Henry**, Ph.C., A.R.I.C. British. Parkinsons, Ltd., Manufacturing Chemists, Burnley. Chief Chemist. *Signed by* : C. J. Eastland, N. R. Campbell, C. W. Maplethorpe.
- (a) **Stewart, Malcolm Gordon**, Subsidiary B.Sc. (Physics), London. Studying Special Chemistry (Lond. Ext.). British. 25, Hambleton Square, Billingham. Assistant Chemist on the Staff of I.C.I., Ltd. *Signed by* : A. J. Prince, M. P. Applebey, H. E. Woosey.
- † **Storrs, Francis Cecil**, B.Sc. and Dip. Bact. (Lond.), F.R.I.C. British. 20, Warwick Mansions, Cromwell Crescent, S.W. 5. Biochemical Research. *Signed by* : E. B. Anderson, C. K. Ingold, Henry Terrey.
- † **Tomalin, Eric Frederick Joffre**, B.Sc.Hons. and Ph.D. (Lond.), A.M.I.Chem.E., A.R.I.C. Chemical Engineering Certificate of King's College, London. British. 79, Gloucester Road, Hampton. Captain R.A., in the Ministry of Supply, normally engaged as a refining technologist in the employ of the Royal Dutch Shell group. *Signed by* : L. G. F. Dolley, A. J. Allmand, A. F. B. Neal.
- \* **Weinberger, Marcus Arthur**, B.Sc.Hons. (General, London, 1943. Chemistry, Manchester, 1943). German. 20, Upper Park Road, Salford, 7. Research Student in Physical Chemistry. *Signed by* : Colin Campbell, G. N. Burkhardt, P. H. Plesch.
- † **Whalley, Roy**, B.Sc.Hons. (Manc.), A.R.I.C. British. 14, Hawthorn Avenue, Edenfield, Ramsbottom. Assistant Chemist, Clayton Aniline Co., Ltd. *Signed by* : C. G. Childs, D. S. Stephens, G. Spencer.
- Williams, William Owen Montague**, B.Sc.Hons., M.Sc. and Diploma of Education (Wales). British. 66, Eversley Road, Sketty, Swansea. Education Officer. Seconded for Service from Raine's Foundation School, London, E. 1. *Signed by* : J. E. Coates, R. H. Davies, L. E. Hinkel, E. F. Ayling.
- ‡ **Wilson, Stanley**, B.Sc. (Lond.). British. Fuel Department, The University, Leeds, 2. Research Student. *Signed by* : H. J. Hodsman, R. E. Jones, R. Spence.
- † **Young, John Roger**, B.Sc. (Lond.), A.R.I.C. British. 48, York Street, Canton, Cardiff. Works Chemist, Messrs. Ed. Cunvan & Co., Ltd. *Signed by* : J. Ormston, Marion Peeling, H. B. Watson.

#### UNDER SPECIAL PROVISION APPERTAINING TO CANDIDATES RESIDENT ABROAD.

- † **Chattopadhyay, Gauri Shankar**, B.Sc. Bengali. 27, Narikeldanga Main Road, Calcutta. Merchant and Consulting Chemist to the Scientific Supplies (Bengal) Co. *Signed by* : J. C. Bardhan.
- Devadatta, Sandur Champion**, D.Sc. (Edin.), Licentiate of the College of Physicians and Surgeons of Bombay. Indian. Wilson College, Bombay, 7. Professor of Chemistry. *Signed by* : R. G. Saraiya.
- Felkin, Hugh Nigel**, British. 42, Avenue de la Roseraie, Geneva. Student of Geneva University. *Signed by* : B. K. Blount.
- ‡ **Goodfellow, Bruce Cowper**, Associate—former Canadian Institute of Chemistry. British. c/o Nuodex Products of Canada, Ltd., 34, Industrial Street, Leaside, Toronto, Ont. Sales Manager. *Signed by* : A. Stanley Cook.
- \* **Riggs, Noel Victor**, B.Sc.Hons. (Adelaide), A.A.C.I. British. c/o Department of Chemistry, University of Western Australia, Nedlands, Western Australia. Lecturer in Chemistry. *Signed by* : D. E. White.

\* Reduced annual subscription.

† Three-body.

(a) Junior Membership two-body.

‡ Two-body.

(b) Junior Membership three-body.

#### PAPERS RECEIVED

List of papers received between February 15th and March 15th, 1945. (This list does not include the titles of papers which have been read at a Scientific Meeting or which have appeared in the *Journal*.)

“Reactions of 4-nitro-2-naphthylamine. Part II. The mono- and di-nitration of 4-nitro-*p*-toluenesulphon-2-naphthalide and the preparation of 4 : 6-dinitro-1-naphthol.” By H. H. HODGSON and D. E. HATHWAY.

- "The mechanism of condensation of the anhydrides of mono- and di-substituted succinic acids with aromatic hydrocarbons under the conditions of the Friedel-Crafts reaction." By M. E. SABOOR.
- "Phosphorus-containing esters. Part I." By H. McCOMBIE, B. C. SAUNDERS, and G. J. STACEY.
- "Search for new analgesics. I. Homologues of pethidine and related compounds." By E. WALTON and (in part) M. B. GREEN.
- "Studies on phosphorylation. Part I. Dibenzyl chlorophosphonate as a phosphorylating agent." By F. R. ATHERTON, H. T. OPENSHAW, and A. R. TODD.
- "Synthesis of piperidine derivatives. Part I." By W. BARR and J. W. COOK.
- "The effect of drying on the vapour pressure of nitrogen tetroxide and the vapour density of nitrogen trioxide." By E. M. STODDART.
- "Olefinic acids. Part I. The reactivity of  $\alpha$ -bromocrotonic acid." By L. N. OWEN.
- "The standard electrode potential of magnesium." By G. E. COATES.
- "The potential and rate of solution of magnesium in deuteriochloric acid." By G. E. COATES.
- "Concentration polarisation in acid solutions." By G. E. COATES.
- "Synthetical experiments bearing on the constitution of phthioic acid." By N. POLGAR and SIR ROBERT ROBINSON.
- "Observations on the structure of the pyrethrolone ethers." By S. H. HARPER.
- "Molecular rearrangements. Part V. A case of reversible  $\alpha$ -diketone-lactone rearrangement." By A. SCHONBERG and ALY SINA.
- "The constitution of the two lactones of *d*-glucosaccharic acid." By T. REICHSTEIN.
- "Photo-chemical reactions in sunlight. Part X. (a) Reaction of ethylenes with phenanthraquinone and with benzil. (b) A new type of photo-chemical equilibrium." By A. SCHONBERG and A. MUSTAFA.
- "*o*-Amino-ketones of the acetophenone and benzophenone types." By J. C. E. SIMPSON and (in part) C. M. ATKINSON, K. SCHOFIELD, and O. STEPHENSON.
- "Cinnolines. Part III. The Richter reaction." By K. SCHOFIELD and J. C. E. SIMPSON.
- "Cinnolines. Part IV. The preparation of 4-hydroxycinnolines, and the mechanism of cinnoline syntheses." By K. SCHOFIELD and J. C. E. SIMPSON.
- "Quinamine. Part I." By T. A. HENRY, K. S. KIRBY, and G. E. SHAW.
- "The preparation and chromoisomerism of 4:5-dinitro-1-naphthylamine, and some perimidines and perinones from 4-chloro- and 4-bromo-1:8-naphthylenediamine." By H. H. HODGSON and D. E. HATHWAY.
- "An interpretation of the Sandmeyer reaction. Part VI. The influence of the chlorine ion on the decompositions of neutral *p*-nitrobenzenediazonium chloride and of *p*-nitrobenzenediazonium cobaltinitrite." By H. H. HODGSON and D. D. R. SIBBALD.

# THE CHEMICAL SOCIETY

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## NOTICE OF FORTHCOMING SCIENTIFIC MEETINGS

### IN LONDON

Thursday, May 17th, 1945, at 5 p.m.

**Hugo Müller Lecture**, on "The Past and Future of Crystal Chemistry," by Professor J. D. Bernal, M.A., F.R.S. To be held in the Lecture Theatre of the Royal Institution, Albemarle Street, W. 1. (By kind permission of the Managers.) The Scientific Meeting will be preceded by the adjourned Annual General Meeting to receive the audited Accounts for 1944.

### OUTSIDE LONDON.

*NEWCASTLE AND DURHAM.*

Friday, May 25th, 1945, at 4.30 p.m.

Meeting for the reading of papers. To be held at King's College, Newcastle-on-Tyne.

*SHEFFIELD.*

Friday, May 11th, 1945, at 6 p.m.

**Lecture** on "Recent Developments in Petroleum Technology," by Dr. A. E. Dunstan. Joint meeting with the University Chemical Society and the South Yorkshire Section of the Royal Institute of Chemistry. To be held at the University, Western Bank.

Friday, May 25th, 1945, at 5.30 p.m.

**Lecture** on "The Place of the Resonance Concept in Chemistry," by Mr. R. P. Bell, M.A., F.R.S. To be held at the University, Western Bank.

*SOUTH WALES.*

**At Cardiff.**

Thursday, May 24th, 1945, at 7 p.m.

**Hugo Müller Lecture**, on "The Past and Future of Crystal Chemistry," by Professor J. D. Bernal, M.A., F.R.S. To be held at University College.





# PROCEEDINGS

OF THE

## CHEMICAL SOCIETY.

### OFFICIAL ANNOUNCEMENTS

#### NOTICE OF MEETINGS OUTSIDE LONDON.

Fellows residing outside London who wish to receive notices of meetings held in areas other than those in which they reside should notify the General Secretary.

#### FELLOWSHIP.

The following 119 candidates were elected Fellows of the Chemical Society on March 15th, 1945 :

Raymond Smith Asquith.	Keith Eric Howlett.	Norman Sidney Payne.
William Kenneth Bates.	Leslie Polan Huggett.	Clifford Edward Payne-Roberts.
Alan Rushton Battersby.	Andrew Keith Jack.	James Norman Fulton Phillips.
Norah Boothman.	Arthur Edwin James.	William Austin Pinnington.
Emmerson Bowes.	Francis George Jeffers.	Jack Plant.
Daniel Robert John Boyd.	Norman Charles Jabez Jeffery.	Cyril Wolfe Pritchett.
Arthur Stanley Briggs.	Robert Goodman Johnston.	John Hinton Read.
Wilfred Bromley.	Lynn Francis Jones.	Ellis Gwynne Roberts.
George Campbell.	Cornelius Keleti.	James Topley Ramage.
Philip Rufus Carter.	Robert William Kelsall.	Colin Robert Ricketts.
James Chalmers.	James Ridley Keneford.	William Guy Roberts.
Donald Boynton Christian.	Thomas Kennedy.	Harry Robinson.
Herbert Joseph Cluley.	Trevor John King.	Stanley Robinson.
Harold Arthur Collinson.	Douglas Stuart Laidler.	Peter Ernest Sagrott.
Brian Edward Cross.	Ernest George Evelyn Land.	Eric Shaw.
Harold Davenport.	Gregory John Lawson.	Henry Owen Smith.
Roger Edmund Deriaz.	James Owen Lay.	Kenneth Cecil Smith.
George Brown Dodds.	George Lindley.	Thomas David Smith.
William Bryan Emery.	Bryan Alfred Jack Lister.	William Keith Smith.
Herbert Charles Evans.	Sidney George Long.	Arthur Frederick Edmund
Rowland Arthen Evans.	Harry Vincent Lowther.	Snashall.
Donald Robert William Felstead.	Lawrence Ernest Lyons.	Thomas Hall Stothard.
Charles Beckham Featherstone.	Alan Macey.	Roy Stringfellow.
John Ernest Gill.	Eric Frederick George McGill.	Reuben Sufrin.
Trevor Walworth Goodwin.	Robert Foster McLean.	Bertram George Swannell.
Alan Hadfield Gowenlock.	Robert Henry Marriott.	András László Tárnoky.
Derek Albert Green.	William Marsden.	Donald Bryce Taylor.
John Edwin Gregory.	James Currie Marshall.	George William Charles Taylor.
Thomas Reid Hardie.	Alexander Lawson Martin.	Maurice James Thornton.
Frank Emery Harvey.	Stanley Reginald William Martin.	Daniel Tonner.
Robert Neville Haszeldine.	Stephen Finney Mason.	Jacques Tréfeuël.
Christopher Stelling Hedley.	Roland Gordon Minor.	George John Charles Vineall.
L. M. Hill.	James Milligan.	Sigmund Wang.
Benjamin Woolf Hirsch.	Fred Harding Montgomery.	Lionel William Warner.
George Edward Holbrook.	Kenneth Alexander Murdoch.	Charles Vernon Whittaker.
Ian George Holden.	James Henry Ottaway.	Ralph Williams.
Brian Laurie Hollingsworth.	John Desmond Overton.	Reginald Williams.
Norman Limon Holmes.	Victor E. Parke.	Geoffrey Willison.
Arthur Holt.	James Parkes.	Geoffrey Ronald Wootten.
Stewart Angus Hood.	John Payne.	Leonard Joseph Zatman.

#### 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, May 14th, 1945. Such objections will be treated as confidential. The forms of application are displayed in the Library.)

†**Barr, Joseph Robert**, B.Sc.Hons. and M.Sc. (L'pool), F.R.I.C. British. Bardena, 36, Knole Road, Dartford. Technical College Teacher. Signed by : A. E. Gillam, T. H. H. Quibell, F. S. Spring, Frank Wokes.

†**Barton-Wright, Eustace Cecil**, D.Sc. (Lond.), F.R.I.C. British. Owls Nest, Ox Lane, Harpenden. Biochemist, Cereals Research Station, St. Albans. Signed by : P. Halton, C. W. Herd, L. M. Mundy.

- Beard, John Stewart**, B.A.Hons. and B.Sc. (Oxon). British. 33, Rockside Drive, Henleaze, Bristol. Experimental Officer, Armament Research Department (Ministry of Supply). *Signed by* : B. Lambert, F. M. Brewer, Harry Irving.
- Bedford, John Guy**, B.Sc.Hons. and M.A. (Oxon). British. Old Steningford Hall, Ripon. Major, R.E. *Signed by* : Chas. S. Bedford, D. H. Everett, R. K. Callow, A. G. Ogston, R. C. G. Moggridge.
- † **Boyd-Barrett, Herbert Stanislaus**, M.Sc. (N.U.I.), Ph.D. (Lond.), A.R.I.C. Irish. Ferndale, Victoria Road, Prestatyn. Senior Research Chemist with the Manchester Oil Refinery, Ltd. *Signed by* : Derrick Rowley, Isaac Goodman, M. Sulzbacher.
- † **Charlton, Cyril Bradbury**, B.Sc. (Lond.). British. 2, Girton Gardens, Shirley, Croydon. Industrial Research Chemist. *Signed by* : J. Kenyon, J. W. Smith, A. Houston.
- † **Dearnley, Frank**, M.Sc. (Lond.), A.R.I.C., A.M.C.T. British. 208, Todmorton Road, Burnley. Works Manager and Research Officer, North East Lancs. Co-operative Laundries Association, Ltd. *Signed by* : John K. Wood, R. Leslie Collett, H. J. T. Ellingham.
- † **Diggory, James Bryan**, B.Sc.Hons. (L'pool). British. Thornleigh, Abbey Road, Llangollen. Research Chemist. *Signed by* : C. C. Moss, W. B. Whalley, E. Pinnington.
- Edenborough, Richard Oakley Montague**, 17 Years experience in the Pharmaceutical Chemical Industry. British. Ardoynne, Welwyn Heath. Production Manager to Bayer Products, Ltd. *Signed by* : H. Shapiro, H. Yellin, K. A. Smith.
- \* **Everard, Kenneth Boothby**. Exhibition in Natural Science to Magdalen College, Oxford. British. Southlands, 6, Almsford Avenue, Harrogate. Student. *Signed by* : Ronald P. Bell, H. M. Powell, L. E. Sutton.
- † **Furzey, Douglas George**, B.Sc.Tech. (Sheffield), A.R.I.C., A.M.I.Chem.E. British. 90, Westwick Crescent, Beauchief, Sheffield, 8. Chief Technical Assistant, Chemical Engineering Department of Newton, Chambers & Co., Ltd. *Signed by* : A. H. Dodd, T. S. Harrison, C. E. Spooner.
- † **Gardner, John Baxter**, B.Sc. (Ph.D. (Lond.)), A.R.C.S., D.I.C., A.R.I.C. Graduate Member of Institution of Chemical Engineers. British. 32, The Lawns, Hatch End. Research Chemist, British Oxygen Co., Ltd. *Signed by* : D. M. Newitt, M. T. Clark, H. Williams.
- \* **Glenton, Henry David**, B.Sc.Hons. (Lond.). British. 30, Chaddesden Park Road, Derby. Shift Chemist. *Signed by* : N. T. Woombs, R. Souter, G. A. Freaque.
- \* **Green, Norman Michael**. British. Writtle Mead, Writtle, Chelmsford. Working for Honours Degree in Chemistry at Oxford University. *Signed by* : L. E. Sutton, K. W. Sykes, S. G. P. Plant.
- Halcrow, Barbara Evelyn**, B.Sc. and Ph.D. (Edin.). British. c/o Long, 94, Trowbridge Road, Bradford-on-Avon. Research Chemist. *Signed by* : Alan A. Goldberg, William Kelly, L. W. Salamé.
- \* **Holden, Dennis**, M.Sc. (Manc.). British. Toc H, Upper Park Road, Victoria Park, Manchester, 14. I.C.I. Research Chemist. *Signed by* : A. E. Gillam, T. H. H. Quibell, H. D. Springall.
- † **Holdsworth, Ernest Clifford**, B.Sc. and Ph.D. (Leeds), A.R.I.C., Leeds Dyeing Diploma, City and Guilds Diplomas in Dyeing and Textile Fibres. British. Westholme, 116, Manygates Lane, Sandal, Wakefield. Research Chemist. *Signed by* : L. C. MacMahon, S. Billbrough, E. B. Maxted.
- \* **Huang, Hsing-Tsung**, B.Sc. (Hong Kong). Chinese. Oriel College, Oxford. Research Student, Dyson Perrins Laboratory, Oxford. *Signed by* : Rita H. Cornforth, Ronald P. Bell, D. Ll. Hammick.
- \* **Johnson, Leslie Victor**, B.Sc.Hons. (Birm.). British. 490, Fox Hollies Road, Hall Green, Birmingham, 28. Research Student, Birmingham University. *Signed by* : L. L. Bircumshaw, M. Stacey, Stanley Peat.
- † **Larner, Erwin Ernest**, B.Sc. (Lond.), A.R.I.C. British. Wyngrove, Slad Road, Stroud. Chief Analytical and Research Chemist to S. G. Bailey & Co., Ltd. *Signed by* : H. V. A. Briscoe, Ernest R. S. Winter, Rowland H. Ellis.
- Macey, Peter Edward**, B.Sc. (Lond.). British. 31, Larkfield Avenue, Gillingham. Research Student, University College, Nottingham. *Signed by* : J. Masson Gulland, John C. Roberts, D. O. Jordan.
- † **MacKay, Thomas**, B.Sc.Hons. (Edin.), A.R.I.C. British. 45, Brunstane Crescent, Joppa, Midlothian. Chemist, I.C.I. (Explosives Division). *Signed by* : E. G. V. Percival, James Kendall, Neil Campbell.
- † **Marshall, Frederick Cecil Barron**, B.Sc. and Ph.D. (Lond.), D.I.C., F.R.I.C. English. 6, Riverside Crescent, Holymoorside. Senior Research Chemist, Low Temperature Carbonisation, Ltd. *Signed by* : L. A. Jordan, S. H. Bell, D. R. Duncan.
- Mercy, Edward Leon Philip**. British. c/o 57, Poplar Avenue, Edgbaston, Birmingham, 17. Chemist in Charge, A.I.D. Laboratory engaged in General Metallurgical Analysis. *Signed by* : L. L. Bircumshaw, Lilian Turton, L. F. Wiggins.
- † **Mitchell, Gilbert Archibald Maldwyn**, B.Sc.Hons. (Glas.), A.R.I.C. British. 64, Beechwood Gardens, Calder Road, Bellshill. Metallurgist, Messrs. Rolls Royce, Ltd. *Signed by* : J. Milne, A. McLean, Stotherd Mitchell.
- † **Mitchell, Robert Lyell**, B.Sc.Hons. (Edin.), Ph.D. (Aberd.). British. Macaulay Institute for Soil Research, Craigiebuckler. Research Chemist, Head of Spectrographic Department. *Signed by* : W. G. Ogg, D. N. McArthur, James Hendrick.
- \* **Moore, Barry Philip**, B.Sc.Hons. (Sheffield). British. 81, Burnham Way, W. Ealing, W. 13. Research Student, Sheffield University. *Signed by* : Brynmor Jones, R. D. Haworth, Alex. H. Lamberton, Neville J. Cartwright, Neville Smith.
- † **Parts, Adolf Gustav**, Mag.Chem.Techn., Dr.Phil.Nat. (Tartu-Dorpat), Professor of Physical Chemistry at Tallinn Technical University of Estonia. Estonian. 23, Manor Way, Petts Wood. Senior Experimental Officer with Armament Research Department of Ministry of Supply. *Signed by* : C. E. H. Bawn, A. J. C. Nicholson, C. S. Bryant.
- † **Pautard, Frederick George Edward**, B.Sc.Hons. (Birm.). British. 1, County Grove, S.E. 5. Research Chemist to E. R. Watts & Sons. *Signed by* : M. Stacey, L. L. Bircumshaw, J. C. Tatlow.
- † **Phillips, Arthur Braime**, B.Sc.Hons. (Leeds), A.R.I.C. British. 22, Yarm Street, Leeds, 11. Shop Manager (Development), Ministry of Supply. *Signed by* : A. K. Unsworth, H. J. Hodsmen, A. L. Roberts.
- † **Powell, Donald Waring**, M.Sc. (Lond.), A.R.I.C. British. 4, Boundary Road, Eastcote, Pinner. Chief Chemist and Director of Harper and Tunstall, Ltd. *Signed by* : Alex. Findlay, R. Leslie Collett, H. J. T. Ellingham.
- † **Resuggan, John Charles Lovell**, A.R.I.C. British. c/o British Hydrological Corporation, High Path, Merton, S.W. 19. Chief Chemist to the British Hydrological Corporation. *Signed by* : F. A. Robinson, E. T. Borrows, J. Elks.

- (a) **Robinson, Gordon Arthur Norgate**. British. 36, Burnham Road, Dartford. Metallurgical and Works Chemist, J. and E. Hall, Ltd. *Signed by* : G. H. Jeffery, D. M. Cowan, C. E. Payne Roberts.
- \* **Skirrow, Geoffrey**, B.Sc.Hons. (Lond.). British. 1470, Leeds Road, Thornbury, Bradford. Research Student, Bradford Technical College. *Signed by* : G. E. Styant, H. I. Stonehill, R. M. Barrer.
- † **Spooner, Edgar Clynton Ross**, M.Sc. and B.E. (Tasmania), D.Phil. (Oxon), M.I.Chem.E., A.R.I.C. British. c/o Sutcliffe, Speakman & Co., Ltd., Guest Street, Leigh. Chemical Engineering Consultant. *Signed by* : E. J. Bowen, C. N. Hinshelwood, Ronald P. Bell.
- † **Stevenson, Walter Wilfred**, A.Met. (Sheffield), F.R.I.C., A.M.I.Chem.E., A.Inst.R. British. The United Steel Companies, Ltd., Central Research Department, Stocksbridge, near Sheffield. Chemical Engineer, The United Steel Companies, Ltd. *Signed by* : R. D. Haworth, D. Woodcock, Arthur W. Chapman, Brynmor Jones.
- \* **Sugden, Geoffrey**, B.Sc.Hons. (Sheffield). British. Rosemount, Feltham Hill Road, Ashford. Assistant Chemist, Anglo-Iranian Oil Co., Ltd. *Signed by* : Brynmor Jones, R. D. Haworth, E. Gertrude Turner.
- Threlfall, Cedric James**, B.Sc. (Lond.). British. 54, Crosby Avenue, Scunthorpe. Research Student, University College, Nottingham. *Signed by* : J. Masson Gulland, John C. Roberts, D. O. Jordan.
- (b) **Valentine, Robert Burns**, B.Sc.Hons. (Edin.). British. 1, Lower Granton Road, Trinity, Edinburgh, 5. Plant Superintendent (Chemist), I.C.I. (Explosives), Ltd. *Signed by* : E. G. V. Percival, Tom Cottrell, B. E. Nicholson.
- † **Welch, Archibald Parker**, Member of the Institution of Mechanical Engineers, Fellow of the Institution of Industrial Administration, Fellow of the Physical Society, Member of the Institution of Production Engineers, Fellow of the Royal Microscopical Society, Bernard Medallist, 1933-34, Fellow of the Institute of Arbitrators. English. 2, Clarendon House, 6, Strathearn Place, Hyde Park Square, W. 2. Consulting Engineer. *Signed by* : T. W. Jones, D. W. Kent-Jones, A. J. Amos.
- Wilcher, Bryan Albert Charles**, B.Sc. (Lond.). British. 91, Londonderry Road, Stockton-on-Tees. Assistant Chemist. *Signed by* : J. R. Partington, V. A. Petrow, H. D. K. Drew, C. W. Scaife.
- \* **Wilson, Edward James**, B.Sc.Hons. (Dun.). English. 1, St. Lawrence's Terrace, Warkworth, Morpeth. Lieutenant in R. Signals now in M.E.F. *Signed by* : G. H. Christie, C. W. Gibby, P. L. Robinson.
- † **Winterbottom, Arthur Baker**, M.Sc.Tech. (Manc.), B.Sc.Eng. (Lond.), F.R.I.C. British. Department of Metallurgy, The University, Manchester, 13. Lecturer in Electrometallurgy. *Signed by* : P. T. Gilbert, Ulick R. Evans, W. H. J. Vernon.
- † **Woiod, Albert John**, B.Sc. (Lond.), A.R.I.C. British. c/o Wellcome Physiological Research Laboratories, Beckenham. Research Chemist. *Signed by* : C. G. Anderson, S. Wilkinson, W. Mark Duffin.
- Wynne, Reginald George**. Eight years in Laboratory of H. Thompson, Esq., Consulting and Analytical Chemist. British. 61, Hymers Avenue, Hull. Technical Officer, General Staff. *Signed by* : Harry Thompson, Edward Chapman, J. Harley-Mason.
- Yardley, John Terence**, B.Sc.Hons. (Lond.), A.R.I.C. British. Crestwell, Hendy Road, Mold. Analytical Chemist, Chemical Inspection Department, Ministry of Supply. *Signed by* : T. Harrington, J. Skull, T. S. Smith.

#### UNDER SPECIAL PROVISION APPERTAINING TO CANDIDATES RESIDENT ABROAD.

- \* **Krishnan, Vattarmadom Rama**, B.Sc.Hons (Annamalai). Indian. Vattar Madhom, Kothakurssi, Panamanna P.O., Ottapalam, S. Malabar, India. Demonstrator and resident Tutor in Chemistry, Madras Christian College, Tambaram, and Research Scholar, Madras University. *Signed by* : S. V. Anantkrishnan.
- McKern, Howard Hamlet Gordon**. Diploma in Chemistry of the Sydney Technical College, A.A.C.I. British. Cadonia, 14, Orwell Street, Potts Point, Sydney, N.S.W. Analytical and Industrial Chemist, Meggitt, Ltd., Macquarie Street, Parramatta, N.S.W. *Signed by* : F. R. Morrison, R. W. Challinor.
- McKerns, Kenneth Wilshire**, B.Sc. (Alberta), Member Canadian Institute of Chemistry. English. I C.G.R.U., C.A.O. Lieut. R.C.A. *Signed by* : A. C. Chibnall.
- \* **Natarajan, Mangalam Ramaswamy**, B.Sc.Hons. (Annamalai). Indian. Annamalainagar, South India. Research Scholar in Chemistry at Annamalai University. *Signed by* : S. V. Anantkrishnan.
- Neuhaus, John William George**, Diploma in Chemistry, Sydney Technical College. British. 190, Old Prospect Road, Wentworthville, N.S.W. Industrial Chemist, Meggitt, Ltd., Parramatta, N.S.W. *Signed by* : F. R. Morrison, R. W. Challinor.
- † **Sadgopal**, M.Sc.Tech. and D.Sc. (Benares), F.R.I.C. Hindu (Indian). 10, Bank Road, Allahabad. Managing Partner and Chief Chemist, the Hindusthan Aromatics Co., Naini-Allahabad. *Signed by* : K. A. Hamied.
- † **Sapiro, Marcus Lazarus**, M.Sc. and Ph.D. (S. Africa). Union National. P.O. Box 163, Bloemfontein, S. Africa. On Active Service. Peace-time occupation, Assistant in Chemistry (University Teaching Staff), University College of the Orange Free State, Bloemfontein. *Signed by* : H. A. E. Mackenzie.

\* Reduced annual subscription.

† Three-body.

(a) Junior Membership two-body.

‡ Two-body.

(b) Junior Membership three-body.

#### PAPERS RECEIVED.

List of papers received between March 15th and April 9th, 1945. (This list does not include the titles of papers which have been read at a Scientific Meeting or which have appeared in the *Journal*.)

"Polycyclic aromatic hydrocarbons. Part XXXI. Some nitrogenous analogues of chrysene, pyrene, and 3 : 4-benzphenanthrene." By J. W. COOK and W. H. S. THOMSON.

"Synthetic analogues of progesterone." By W. C. J. ROSS.

"Synthetic analogues of corticosterone." By W. C. J. ROSS.

"The system : lead chloride-water, 15° to 35° C." By T. P. GOULDEN and L. M. HILL.

- "The stereochemistry of hydroxyproline." By A. NEUBERGER.
- "The kinetics of anionotropic rearrangement. Part III. Substituent effects in the oxotropic formation of the vinylacetylene system." By E. A. BRAUDE and E. R. H. JONES.
- "The kinetics of anionotropic rearrangement. Part IV. The theory of substituent effects." By E. A. BRAUDE.
- "The kinetics of anionotropic rearrangement. Part V. Substituent effects in the oxotropic formation of the butadiene system. A comparison of the electron attracting properties of the ethylenic and acetylenic bonds." By E. A. Braude and E. R. H. Jones.
- "The effect of pressure and concentration on the solubility and hydrolysis of chlorine." By H. M. HAYNES.
- "The action of methyl alcohol on phenol in the presence of alumina. Formation of anisole, alkylated phenols and hexamethylbenzene." By N. M. CULLINANE and S. J. CHARD.
- "Quinamine. Part II. Constitution." By K. S. Kirby.
- "Leptospermone. Part II." By L. H. BRIGGS, C. H. HASSALL, and W. F. SHORT.
- "Naphtha-1': 2' : 4 : 5-selenazoles." By E. B. KNOTT.
- "Chloranil dehydrogenation of tetrahydrocarbazoles." By (MISS) B. M. BARCLAY and N. CAMPBELL.
- "Studies in light absorption. Part I. *p*-Benzoquinones." By E. A. BRAUDE.
- "Studies in light absorption. Part II. 2:4-Dinitrophenylhydrazones." By E. A. BRAUDE and E. R. H. JONES.
- "The action of acids on *N*-bromoacetanilides." By G. I. ISRAEL, (MISS) A. W. N. TUCK, and F. G. SOPER.
- "The course of autoxidation reactions in polyisoprenes and allied compounds. Part IX. The primary thermal oxidation product of ethyl linoleate." By J. L. BOLLAND and H. P. KOCH.

May, 1945.

# THE CHEMICAL SOCIETY

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## NOTICE OF FORTHCOMING SCIENTIFIC MEETINGS

OUTSIDE LONDON.

NEWCASTLE AND DURHAM.

Friday, June 8th, 1945 at 4.30 p.m.

Meeting for the reading of papers. To be held in the Chemistry Lecture Theatre, King's College, Newcastle-on-Tyne.



# PROCEEDINGS

OF THE

## CHEMICAL SOCIETY.

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### Minutes of a SCIENTIFIC MEETING

held at the Royal Institution, Albemarle Street, W.1, on Thursday, May 17th, 1945, at 5 p.m.

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

#### MINUTES.

The minutes of the Scientific Meeting of March 15th, which had been circulated, were taken as read and were confirmed and signed.

#### ACCOUNTS FOR 1944.

The Annual General Meeting, adjourned from April 19th, was held and the Statement of Accounts for 1944 was adopted.

#### FORMAL ADMISSION OF FELLOWS.

The following were formally admitted Fellows of the Chemical Society: G. R. Hilldrith, Daniel M. Brown, Hugh S. Forrest, John M. Bremner, Steffi Guttmann, Derek A. Green, Geoffrey R. Wootten, William J. Kramers, A. J. Crockatt, Edmund F. Maillard, Maurice H. Pearson, C. E. Payne-Roberts, J. W. H. Oldham, A. D. E. Pullin, Walter C. Coppins, A. L. Ford.

#### HUGO MÜLLER LECTURE.

After a brief introduction, the Chairman called on Professor J. D. Bernal to deliver his **Hugo Müller Lecture**, entitled: "The Past and Future of Crystal Chemistry."

At the conclusion of the lecture, a vote of thanks to the Lecturer, proposed by PROFESSOR J. M. ROBERTSON, was carried with acclamation.

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### OFFICIAL ANNOUNCEMENTS

#### DEATHS.

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

	Elected.	Died.
Harold Eben Carr .....	1921	March 21st, 1945.
James Kear Colwell .....	1890	April 26th, 1945.
Frank Eustace King .....	1902	March 17th, 1945.
Thomas Joseph Nolan .....	1913	March 12th, 1945.
Alan Percy Platt .....	1944	March 20th, 1945.
Donald Vernon Tilston .....	1943	April 1st, 1945.

#### CONGRATULATIONS.

The Council have sent congratulations to Professor W. P. Wynne, who completed 60 years of Fellowship on May 7th, and to the following, who will complete 50 years of Fellowship on May 18th:

Harold A. Auden.	Robert S. Morrell.
Lancelot A. Borradaile.	George E. Shaw.
John McGlashan.	Frederick G. Trehärne.
Robert C. Marchant.	

and to the following on their election as Fellows of the Royal Society on March 14th:

Professor J. M. Gulland.	Professor J. M. Robertson.
Professor H. D. Kay.	Professor F. M. Rowe.

**GENERAL SECRETARY.**

Dr. D. C. Martin has been appointed by the Council to succeed Mr. S. E. Carr as General Secretary.

**FRENCH CHEMICAL SOCIETY.**

A telegram and letter of thanks have been received from Professor M. Tiffeneau (President of the French Chemical Society) for greetings sent from Fellows at the Annual General Meeting on April 19th.

**ACKNOWLEDGMENTS.**

The thanks of the Council have been conveyed to Mr. C. Buckmaster for presenting publications to the Society, and to Mr. Arnold Stevenson for presenting publications and a reproduction of a water colour of A. von Humboldt.

**RESEARCH GRANTS.**

A grant of £12 has been made to Mr. J. C. Bevington (Queen's College, Cambridge) for a research on "The Polymerisation of Acetaldehyde."

**HONORARY FELLOWS.**

The following have been elected Honorary Fellows of the Society by the Council :

Sir Henry H. Dale, O.M., G.B.E., P.R.S.	Professor Frederick Joliot.
Professor V. M. Goldschmidt.	Professor Harold C. Urey.

**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, June 18th, 1945. Such objections will be treated as confidential. The forms of application are displayed in the Library.)*

- (b) **Arnold, Peter William**, B.Sc. (Wales). British. Cefn, Beaumaris, Anglesey. Officer under the Land Fertility Scheme in the West Midland Province. *Signed by* : W. Rogie Angus, G. T. Jones, E. D. Hughes.
- (b) **Boyle, Archibald Raymond**, B.Sc.Hons. and Ph.D. (Birm.). British. 10, Cremorne Road, Four Oaks, Sutton Coldfield, nr. Birmingham. Research Physical Chemist, Chemistry Department, The University, Edgbaston, Birmingham, 15. *Signed by* : W. N. Haworth, S. R. Carter, M. Stacey.
- ‡ **Cahill, Terence John**, A.R.I.C. British. 10, Ealing Park Mansions, South Ealing Road, W. 5. Analyst. *Signed by* : John Floren, C. W. Chater, G. H. Green.
- (a) **Cross, Arthur Henry John**, B.Sc. (Lond.). British. 29, Torriano Avenue, Kentish Town, N.W. 5. Analytical Chemist, The British Drug Houses, Ltd. *Signed by* : E. L. Cooper, K. J. Verrill, S. G. Long.
- Crum, Jean Margaret**, M.A. and D.Phil. (Oxon.). British. Wilmer House, Farnham. Research Chemist, National Institute for Medical Research, Hampstead, N.W. 3. *Signed by* : Harold King, James Walker, Thomas S. Work.
- (b) **Dunnett, Peter Sidney**, Inter.B.Sc. British. 137, Ridgeway Drive, Bromley. Chemist to Messrs. Samuel Jones & Co., Ltd. Industrial research on Adhesives, and allied products. *Signed by* : G. H. Jeffrey, Arthur I. Vogel, C. E. Payne Roberts.
- † **Edge, James Arthur**, B.Sc. (Lond.), A.R.C.S., A.R.I.C., Diploma of Education (Leeds). British. 8, Bowman Avenue, Buttershaw, Bradford. Senior Science Master, Grange High School, Bradford. Part-time Lecturer in Physics and Chemistry, Technical College, Bradford. *Signed by* : R. M. Barrer, H. I. Stonehill, G. E. Styan.
- † **Fortune, John Brook**, M.Sc.Met. and B.Sc.Eng. (Wales), M.I.Mech.E., M.I.S.I. British. Solway Estate, Maryport. Works Manager, Hornflowa Ltd., Makers of Plastics Raw Materials, Powders and Mouldings. *Signed by* : Alex. W. McLaren, R. Neiger, A. B. Coles.
- † **Gomberg, Heiem**, B.Sc. (Lond.), A.R.C.S., A.R.I.C. British. 45, Elliott Road, Hendon, N.W. 4. Research Chemist at Paint Research Station. *Signed by* : S. H. Bell, D. R. Duncan, J. H. Nicholls.
- Hatch, James William**. Qualified Druggist. British. Hillsborough, Co. Down, Northern Ireland. Representative in Ireland for London firm of Manufacturing Chemists. *Signed by* : H. Graham, A. W. Stewart, T. E. Ellison.
- ‡ **Herzberg, Franz Moritz**, Dr.Ing. (Freiberg and Dresden, Saxony, Academy of Mining). Technically Stateless, formerly German. Solway Estate, Maryport. Managing Director, Hornflowa Ltd., Makers of Plastics Raw Materials, Powders and Mouldings. *Signed by* : Alex. W. McLaren, R. Neiger, A. B. Coles.
- ‡ **Hornby, Edward Stuart**, B.Sc. (Lond.). British. 9, Cissbury Ring North, Woodside Park, N. 12. Chemist. *Signed by* : H. G. Poole, C. K. Ingold, Henry Terrey.
- \* **Jenkins, Eric Neil**, B.Sc.Hons. (Wales). British. 28, Broomsleigh Street, West Hampstead, N.W. 6. Organic research assistant to Messrs. Milton Antiseptic Ltd. *Signed by* : K. O. Michaelis, C. W. Davies, Kurt Heller.
- ‡ **Jones, Francis Bernard**, B.Sc. (Lond.). British. 55, The Chase, Wallington, Works Chemist at British Drug Houses, Ltd. *Signed by* : Kenneth J. Verrill, S. G. Long, E. L. Cooper.
- Linnett, John Wilfred**, M.A. and D.Phil. (Oxon.). British. The Queen's College, Oxford. University Demonstrator in Chemistry and Fellow of The Queen's College, Oxford. *Signed by* : Ronald P. Bell, B. Lambert, D. Ll. Hammick.
- (b) **Loneragan, Ronald James**, Inter.B.Sc. (Lond.). British. 3, Somerset Road, Edmonton, N. 18. Clerical Assistant (C.D.), Town Clerk's Office, Town Hall, Wembley, intending to return to Plastics Laboratory. *Signed by* : R. W. West, W. Gerrard, D. H. Richardson.



- (b) **Loveridge, Brian Arthur**, B.A.Hons. (Harvard). One year spent in polarographic research. British. The Technical Staff Mess, Royal Aircraft Establishment, South Farnborough. Employed by the Royal Aircraft Establishment, M.A.P., on electro-chemical research. Signed by : W. F. K. Wynne-Jones, J. A. Wrenn, G. A. Earwicker.
- † **Matthews, John Bryant**, B.Sc. and Ph.D. (L'pool), 8 years Post-Graduate research experience. British. 18, The Groves, Chester. Research Chemist. Signed by : J. Stewart Cook, W. C. Peck, F. M. Wright.
- † **O'Brien, Eric Ackerley**, B.Sc.Tech. (Manc.), F.R.I.C. British. 20, Egerton Road, Monton, Eccles. Cereal Chemist. Signed by : W. P. Ford, H. C. Freeman, D. W. Kent-Jones.
- Pianka, Max**. Polish. 106, Belsize Road, N.W. 6. Laboratory Chemist, Organic Research Laboratories, Dufay-Chromex. Signed by : R. W. West, D. H. Richardson, W. Gerrard.
- (b) **Roberts, Evan**, B.Sc.Hons. (Wales). British. 11, County Road, Penygroes. Research. Signed by : E. D. Hughes, W. Rogie Angus, Gwilym T. Jones.
- \* **Russell, Keith William**. London University. Matriculation, Higher School Certificate with Intermediate Exemption, London University Subsidiary Radio-Physics. British. Connaught Hall, Wessex Lane, Swaythling, Southampton. Student studying for B.Sc. Special Chemistry at University College, Southampton. Signed by : S. H. Harper, N. K. Adam, K. R. Webb.
- (b) **Topper, Harry Hyman**, B.Sc. (Lond.), A.R.C.S. British. 15, Dunsany Road, W. 14. Research Chemist in Varnish Laboratory at Messrs. Jenson & Nicholson, Ltd. (Robbialac Company). Signed by : H. V. A. Briscoe, A. A. Eldridge, H. J. Emelús.
- † **Walton, Arthur**, M.Sc. (Manc.), F.R.I.C. British. 92, St. James' Road, Blackburn. Head of Science Department, Blackburn Technical College. Signed by : J. E. Wynfield Rhodes, M. A. Phillips, Eric S. Gyngell.

#### UNDER SPECIAL PROVISION APPERTAINING TO CANDIDATES RESIDENT ABROAD.

- ‡ **Klein, Max Berthold**, M.D. (Leipzig). British. c/o Grindlay & Co., Ltd., Mint Road, Bombay. Major, Indian Medical Service. Signed by : S. S. Bhatnagar.
- † **Tauch, Ernest John**, B.S. (Michigan State College). U.S.A. 3092, Broadway, Cleveland, 15. Research Supervisor, Grasselli Chemical Department, E.I. du Pont de Nemours & Co. Signed by : E. K. Bolton.

• Reduced annual subscription.

† Three-body.

(a) Junior Membership two-body.

‡ Two-body.

(b) Junior Membership three-body.

#### PAPERS RECEIVED

List of papers received between April 9th and May 17th, 1945. (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 constituents of expressed West Indian lime oil." By A. G. CALDWELL and E. R. H. JONES.
- "The alkaloids of *Gelsemium sempervirens*. Part I." By W. G. C. FORSYTH, S. F. MARRIAN, and T. S. STEVENS.
- "The effect of molecular environment on the absorption spectra of organic compounds in solution. Part IV. Dienones and dienals." By L. K. EVANS and A. E. GILLAM.
- "A note on some derivatives of eugenol and *cis*- and *trans*-isoeugenol." By T. F. WEST.
- "Heat deactivation of a palladium catalyst." By D. T. GIBSON.
- "The synthesis of 3-methylisoquinolines. Part I." By G. R. CLEMO and J. H. TURNBULL.
- "An improved glass electrode cell assembly." By G. E. COATES.
- "The reaction of acrylonitrile with aliphatic alcohols." By J. H. MACGREGOR and C. PUGH.
- "The synthesis of substances related to the sterols. Part XLIV. *dl-cis*-Equilenin." By A. J. BIRCH, (MRS.) R. JAEGER, and SIR ROBERT ROBINSON.
- "The preferential reduction of nitro-groups in polynitro-compounds. Part II. Picric acid and 3:5-dinitro-*o*-cresol. An almost quantitative preparation of picramic acid." By H. H. HODGSON and E. R. WARD.
- "The kinetics of halogen addition to unsaturated compounds. Part VII. Bromine addition in CCl<sub>4</sub>, PhCl, and CHCl<sub>3</sub>." By P. B. D. DE LA MARE, R. A. SCOTT, and P. W. ROBERTSON.
- "Synthesis of amino-sulphones." By A. A. GOLDBERG and (in part) D. M. BESLY.
- "Structure of benzene. Part XI. Introductory consideration of the spectral properties of the vibrations of some deuterated benzenes." By C. R. BAILEY, C. K. INGOLD, H. G. POOLE, and C. L. WILSON.
- "Structure of benzene. Part XII. Preparation of deuterated benzenes by the Grignard reaction. Mono- and 1:4-di-deuterobenzene." By L. H. P. WELDON and C. L. WILSON.
- "Structure of benzene. Part XIII. Hydrogen exchange reactions with benzene derivatives. Preparation of 1:3:5-tri-, 1:2:4:5-tetra-, and penta-deuterobenzene." By A. P. BEST and C. L. WILSON.
- "Structure of benzene. Part XIV. Limitations of the decarboxylation method for preparing partly deuterated benzenes." By L. H. P. WELDON and C. L. WILSON.

- "Structure of benzene. Part XV. Experimental methods for Raman spectroscopy, including a micro-method. Revision of the Raman spectrum of hexadeuterobenzene." By H. G. POOLE.
- "Structure of benzene. Part XVI. Experimental methods for infra-red spectroscopy. Note on the infra-red spectrum of hexadeuterobenzene." By C. R. BAILEY, S. C. CARSON, and C. K. INGOLD.
- "Structure of benzene. Part XVII. The Raman and infra-red spectra of 1:3:5-trideuterobenzene. Description and analysis." By C. R. BAILEY, J. B. HALE, (MISS) N. HERZFELD, C. K. INGOLD, A. H. LECKIE, and H. G. POOLE.
- "Structure of benzene. Part XVIII. The Raman spectra of 1:4-dideuterobenzene and 1:2:4:5-tetradideuterobenzene. Description and analysis." By (MISS) N. HERZFELD, J. W. HOBDEN, C. K. INGOLD, and H. G. POOLE.
- "Structure of benzene. Part XIX. The infra-red spectra of 1:4-dideuterobenzene and 1:2:4:5-tetradideuterobenzene. Description and analysis." By C. R. BAILEY, S. C. CARSON, R. R. GORDON, and C. K. INGOLD.
- "Structure of benzene. Part XX. The Raman and infra-red spectra of monodeuterobenzene. Description and analysis." By C. R. BAILEY, R. R. GORDON, J. B. HALE, (MISS) N. HERZFELD, C. K. INGOLD, and H. G. POOLE.
- "Structure of benzene. Part XXI. The inactive fundamental frequencies of benzene, hexadeuterobenzene and the partly deuterated benzenes." By (MISS) N. HERZFELD, C. K. INGOLD, and H. G. POOLE.
- "The metal-catalysed reaction between acetylene and hydrogen. Part V. Reaction over palladium, iron, and some other catalysts." By J. SHERIDAN.
- "The quantitative estimation of xylose." By L. J. BREDDY and J. K. N. JONES.
- "Chemical conversion of  $\beta$ -carotene into vitamin A." By R. F. HUNTER and N. E. WILLIAMS.
- "The system sodium carbonate-sodium borate-water at 35°." By L. M. HILL.
- "The reaction between 1-thiolbenzthiazole and trichlorotriethylamine." By R. F. REYNOLDS.
- "The nitration of 3-acetamidoacetophenone." By W. A. WATERS.
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**PROCEEDINGS**  
OF THE  
**CHEMICAL SOCIETY.**

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**OFFICIAL ANNOUNCEMENTS**

**DEATHS.**

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

	Elected.	Died.
Charles Edwin Corfield .....	1917	April 28th, 1945.
Viscount Exmouth .....	1923	June 7th, 1945.
Sir Martin Onslow Forster .....	1892	May 23rd, 1945.
Archibald Walker .....	1881	June 10th, 1945.

**220TH ANNIVERSARY OF THE ACADEMY OF SCIENCES OF THE U.S.S.R.**

The following letter was received from the Ambassador of the U.S.S.R. in Great Britain :

19th May, 1945.

DEAR MR. PRESIDENT,

From June 15th to 28th the 220th Anniversary of the Academy of Sciences of the Union of Soviet Socialist Republics will be celebrated in Moscow and in Leningrad.

The Academy of Sciences of the U.S.S.R. have requested me to inform you of this and to express their hope that The Royal Chemical Society will take part in the celebration of this Jubilee by sending their Representative to the Jubilee festivities.

It will be greatly appreciated by the Academy of Sciences of the U.S.S.R. if you will be good enough to let them know as early as possible the full name, scientific degrees, official capacity and the private address of your Representative to enable the Academy to send their invitation to him.

Yours sincerely,

(Sgd.) F. GOUSEV,

Ambassador of the U.S.S.R. in Great Britain.

The Council are glad to report that Professor F. G. Donnan agreed to represent the Society at the Celebrations and to present the following Address on behalf of the Society :—

THE CHEMICAL SOCIETY

TO THE

ACADEMY OF SCIENCES OF THE UNION OF SOVIET SOCIALIST REPUBLICS.

We, the President, Council and Fellows of the Chemical Society learn with the greatest pleasure that the Academy of Sciences of the Union of Soviet Socialist Republics will celebrate in June 1945 the 220th Anniversary of its Foundation, and we offer our warmest congratulations on this auspicious occasion.

Many scientists of world-wide reputation have been associated with your Academy ever since the early days when Lomonosov won imperishable renown by his remarkable discoveries in physics and chemistry.

In more recent years the election of Semenov and Zelinsky, two distinguished members of the Academy, as Honorary Fellows of the Chemical Society, has signalized our great appreciation of the services the Academy has rendered to the science of Chemistry.

We recognise the very high place which the Academy occupies in the fully organized plan of national development in the Union of Soviet Socialist Republics and the splendid contributions which are now being made, under its direction, to science and to civilisation.

In the period of reconstruction and peaceful development which is now before us we hail with immense satisfaction the part which the members of your Academy, enhancing their fame, continue to play in the progress and development of Science.

Signed on behalf of the Chemical Society this Twelfth day of June One thousand Nine Hundred and Forty-five.

(Signed) W. N. HAWORTH. *President.*  
F. P. DUNN. *Treasurer.*  
G. M. BENNETT. } *Honorary*  
WM. WARDLAW. } *Secretaries.*

**CONGRATULATIONS.**

The congratulations of the Council have been sent to Professor Robert Wallace, who completed 60 years of Fellowship on June 4th, 1945.

**ACKNOWLEDGMENTS.**

The thanks of the Council have been conveyed to Messrs. D. I. Duveen, W. C. D. Rosney, and D. G. Wilkinson for gifts of publications of the Society.

**HONORARY SECRETARY.**

The Council have accepted with regret the resignation of Professor H. V. A. Briscoe as Honorary Secretary, and have appointed Dr. J. L. Simonsen, F.R.S., to this Office.

**RESEARCH GRANTS.**

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

	£	s.	d.
Plant products of New Zealand (L. H. Briggs) .....	20	0	0
Photochemistry of parasantonide (S. Mitchell) .....	10	0	0
Molecular association in the esters of carbamic and thiocarbamic acids (N. G. Reynolds) .....	6	0	0
Synthesis of some phenylene carbazoles (A. R. Somerville) .....	5	0	0

**LOCAL REPRESENTATIVE FOR EXETER.**

Dr. S. J. Gregg has accepted the invitation of the Council to act as Local Representative for Exeter.

**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 1945—1946 :

*Finance and General Purposes Committee.*

F. H. Carr, J. W. Cook, A. E. Dunstan, Sir Alfred Egerton, G. I. Finch, I. M. Heilbron, W. H. Mills, Sir Robert Pickard, together with the Officers, the Chairman of the Publication Committee and the representative of the Joint Library Committee on the Council of the Chemical Society. The President as Chairman, Treasurer as Vice-Chairman, and the General Secretary as Secretary.

*Publication Committee.*

C. N. Hinshelwood, as Chairman, N. K. Adam, M. P. Applebey, W. Baker, E. J. Bowen, J. E. Coates, J. W. Cook, E. G. Cox, H. J. Emeléus, C. R. Harington, T. A. Henry, D. H. Hey, E. L. Hirst, C. K. Ingold, D. J. G. Ives, E. R. H. Jones, J. Kenyon, F. E. King, F. G. Mann, H. W. Melville, T. S. Moore, R. G. W. Norrish, M. Polanyi, H. Raistrick, B. C. Saunders, J. L. Simonsen, J. C. Smith, H. W. Thompson, together with the Officers, and the Editor as Secretary.

*Research Fund Committee.*

N. K. Adam, A. J. Allmand, J. E. Coates, J. W. Cook, H. McCombie, J. Kenyon, Sir Robert Robinson, J. L. Simonsen, A. R. Todd, together with the Officers. The President as Chairman, and the General Secretary as Secretary.

*Publications Exchange Committee.*

A. J. Allmand, H. Bassett, J. Kenyon, G. A. R. Kon, together with T. A. Henry (ex-officio representative of the Joint Library Committee on the Council) and the Officers, with the Librarian as Secretary.

**GENERAL SECRETARYSHIP.**

Dr. David C. Martin, who succeeds Mr. S. E. Carr as General Secretary, will take up his duties as from August 1st, 1945.

**LIBRARY.**

The hours during which the Library is open have recently been extended, and are now as follows :

Monday to Friday .....	10 a.m. to 6 p.m.
Saturday .....	10 a.m. to 5 p.m.

The Library will be closed for revision and cleaning from August 6th to August 18th inclusive.

**FELLOWSHIP.**

The following 112 candidates were elected Fellows of the Chemical Society on May 17th, 1945 :

- Denis Adlington.  
 Leslie Airey.  
 John William Albans.  
 Joseph Robert Barr.  
 Eustace Cecil Barton-Wright.  
 John Stewart Beard.  
 John Guy Bedford.  
 Herbert Stanislaus Boyd-Barrett.  
 Clarence Fairbank Buckley.  
 John Glyn Burgan.  
 Robert George Carson.  
 Wilfred Eric Chapman.  
 Cyril Bradbury Charlton.  
 Gauri Shankar Chattopadhyay.  
 Herbert Edmund Clarke.  
 Hugh Wilson Davidson  
 Frank Dearnley.  
 Sandur Champion Devadatta.  
 James Bryan Diggory.  
 Archibald Walter Eric Downer.  
 Richard Oakley Montague Eden-  
 borough.  
 Kenneth Boothby Everard.  
 Allan James Faulks.  
 Hugh Nigel Felkin.  
 Eric Sidney John Fry.  
 Douglas George Furzey.  
 Gordon Neville Gadsby.  
 John Baxter Gardner.  
 Munir Gindy.  
 Henry David Glenton.  
 Bruce Cowper Goodfellow.  
 Norman Michael Green.  
 Barbara Evelyn Halcrow.  
 Peter Hey.  
 Ronald Hicks.  
 George Mason Hills.  
 Dennis Holden.  
 Ernest Clifford Holdsworth.
- James Ronald Holker.  
 Hsing-Tsung Huang.  
 Robert Isherwood.  
 Frank Woolgar Jarvis.  
 Leslie Victor Johnson.  
 Frederick Victor Jones.  
 James Dillwyn Joseph.  
 Albert Edward Kaye.  
 Austin William Kenchington.  
 Kenneth Walter Lloyd Kench-  
 ington.  
 Carl Aloysius Kerr.  
 Vattarmadom Rama Krishnan.  
 Erwin Ernest Lerner.  
 Albert Edward Laxton.  
 Oscar Martin Lee.  
 Derek Drury Lord.  
 John Waring Lucas.  
 Peter Edward Macey.  
 Andrew Hamilton McIntosh.  
 Thomas MacKay.  
 Howard Hamlet Gordon McKern.  
 Kenneth Wilshire McKerns.  
 Frederick Cecil Barron Marshall.  
 Leslie Edward Martin.  
 Edward Leon Philip Mercy.  
 Gilbert Archibald Maldwyn  
 Mitchell.  
 Robert Lyell Mitchell.  
 Robert George Monk.  
 Barry Philip Moore.  
 Douglas Sydney Morris.  
 Leslie Alexander Munro.  
 Arthur Basil Naish.  
 Mangalam Ramaswamy Natara-  
 jan.  
 Francis Charles Neale.  
 John William George Neuhaus.  
 Charles Roy Norton.
- Louis O'Dea.  
 William Anthony Osman.  
 Adolf Gustav Parts.  
 Frederick George Edward  
 Pautard.  
 Arthur Braime Phillips.  
 Donald Waring Powell.  
 Richard St. John Preston.  
 John Charles Lovell Resuggan.  
 James Maurice Ridgion.  
 Noel Victor Riggs.  
 Gordon Arthur Norgate Robinson.  
 Kenneth Edwin Russell.  
 Sadgopal.  
 Marcus Lazarus Sapiro.  
 Geoffrey Skirrow.  
 Harry Smith.  
 Peter Robert William Smith.  
 Arthur Henry Snowden.  
 Edgar Clynton Ross Spooner.  
 Walter Wilfred Stevenson.  
 Malcolm Gordon Stewart.  
 Francis Cecil Storrs.  
 Geoffrey Sugden.  
 Eric Frederick Joffre Tomalin.  
 Cedric James Threlfall.  
 Robert Burns Valentine.  
 Marcus Arthur Weinberger.  
 Archibald Parker Welch.  
 Roy Whalley.  
 Bryan Albert Charles Wilcher.  
 William Owen Montague Williams.  
 Edward James Wilson.  
 Stanley Wilson.  
 Arthur Baker Winterbottom.  
 Albert John Woiwod.  
 Reginald George Wynne.  
 John Terence Yardley.  
 John Roger Young.

### 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, July 30th, 1945. Such objections will be treated as confidential. The forms of application are displayed in the Library.*)

- † **Adams, John Thomas**, A.R.I.C., Assoc.M.C.T., over 25 years Chemical Laboratory and Research Experience. British. 41, Orford Road, Warrington, Research Chemist, I.C.I. (General Chemicals), Ltd. *Signed by* : L. J. Burrage, L. A. Haddock, O. D. Mooney.
- \* **Anderson, William**. British. 932, Govan Road, Govan, Glasgow, S.W. I. Student in Chemistry (Hons.) at the University of Glasgow. Final year. *Signed by* : J. W. Cook, S. Horwood Tucker, John A. Mair.
- \* **Barlow, Audrey**, B.Sc.Hons. (Manc.). British. 6, Granary Lane, Worsley, Manchester. Research Student. *Signed by* : F. S. Spring, A. E. Gillam, A. H. Gowenlock.
- \* **Bell, Ronald**. British. Tynedale, Front Street, Prudhoe-on-Tyne. Student, Final year for Honours B.Sc. in Chemistry, King's College, Newcastle on Tyne. *Signed by* : Richard Raper, Wesley Cocker, G. A. Swan.
- Berkman, Wolfe**, B.Sc. (Cape Town). South African. 125, Main Road, Parow, Cape Town. Biochemist to a private pathologist. *Signed by* : Max Lamchen, W. Pugh, P. C. Carman.
- † **Blackmore, Richard Lye**, B.Sc. (Lond.). British. 43, Swains Lane, Highgate, N. 6. Research Chemist. *Signed by* : Michael F. Carroll, B. Dudley Sully, Denis C. Quin.
- † **Bonnell, David Glynwyn Robert**, M.Sc. and Ph.D. (Wales), Formerly Fellow of the University of Wales. British. Building Research Station, Bucknall's Lane, Garston, Watford. Principal Scientific Officer. *Signed by* : F. M. Lea, G. E. Bessey, W. G. Grindle.
- † **Boyes, William Harry Douglas**, B.Sc.Hons. and Ph.D. (Edin.). British. 193, Bruntsfield Place, Edinburgh, 10. Plant Superintendent, Imperial Chemical Industries (Explosives) Ltd. *Signed by* : E. G. V. Percival, Neil Campbell, Christina C. Miller.
- \* **Brown, Fred**, B.Sc.Hons. (Manc.). British. 10, Harling Street, Rosegrove, Burnley. Research Student, Manchester University. *Signed by* : J. K. N. Jones, E. L. Hirst, F. S. Spring.
- (b) **Brown, John Frederick**, A.R.C.S. British. 30, Princethorpe Road, Sydenham, S.E.26. Research Assistant, I.C.I. *Signed by* : B. Atkinson, P. A. Robins, P. C. Bull.
- † **Clarke, Geoffrey Donald**, B.Sc. (Lond.), A.R.I.C. British. 50, Woodfield Avenue, Gravesend. Lieut. R.E. *Signed by* : J. C. Crocker, F. H. Lowe, R. Leslie Collett.
- † **Cleave, Dennis Percy Collin**. British. 41, Westfield Road, Barnehurst. In charge of research and development connected with building materials and allied products. *Signed by* : A. C. Davis, M. S. Smith, W. F. Bennett.

- (a) **Cummings, William Allen Wesley**. British. 27, Foxton Avenue, Cullercoats, Whitley Bay. 3rd Year honours chemistry student, King's College, Newcastle. *Signed by* : Richard Raper, Wesley Cocker, G. R. Clemo.
- (a) **Davison, Jack**, Subsidiary B.Sc.(Physics) London (Ext.), studying for Special Degree (Chemistry). British. 137, Raby Road, West Hartlepool. Laboratory Assistant, engaged on research work. *Signed by* : A. J. Prince, M. P. Applebey, Michael H. M. Arnold.
- † **Dunn, George**, B.Sc.Hons. (Glasgow). British. Elnathan, Nelson Street, Dunoon. Serving with H.M. Forces. *Signed by* : Henry G. A. Anderson, Edmund Bishop, Ezra Golombok.
- Duval, Bruce**. Matriculation. British. 24, Green Curve, Nork Park, Banstead. Laboratory Assistant. *Signed by* : R. H. Hall, Alec Elce, C. B. Maddocks.
- † **Eade, Douglas Grey**, M.Sc. (Wales), A.R.I.C. British. 10, Alba Avenue, Taibach, Port Talbot. Shop Manager, Royal Ordnance Factory, Bridgend. *Signed by* : Lynn F. Jones, P. J. West, J. E. Coates, L. E. Hinkel.
- ‡ **Emlyn, James Alan**, F.R.I.C. British. 4, Handside Green, Welwyn Garden City. Works Manager, Roche Products, Ltd. *Signed by* : Nathan C. Hindley, F. Bergel, A. Cohen.
- (b) **Ferguson, John McNeill**, B.Sc.War Hons. (Glas.). British. c/o Stephen, 153, Raeberry Street, Glasgow, N.W. Assistant Chemist, Beattie's Bakeries, Ltd. *Signed by* : J. W. Cook, James Bell, J. Monteath Robertson.
- ‡ **Halsall, Thomas Gilbert**, B.Sc.Hons. (Manc.). British. 14, Garthwaite Avenue, Oldham. Research Student in Organic Chemistry, Manchester University. *Signed by* : A. E. Gillam, J. K. N. Jones, E. L. Hirst.
- \* **Gelles, Edward**. London Higher Schools. Open Scholarship at Balliol College. Austrian. Balliol College, Oxford. Reading for Honours B.A. in Chemistry at Oxford. *Signed by* : Ronald P. Bell, F. E. King, D. L. Hammick.
- \* **Gellner, John George**, Czechoslovak. 21, Rosebery Crescent, Newcastle on Tyne, 2. Third year Honours Student in Chemistry. *Signed by* : Wesley Cocker, G. R. Clemo, Richard Raper.
- ‡ **Katscher, Ernst**, D.Phil. (Vienna). Austrian. 1, Trowbridge Road, Bradford on Avon. Research Chemist at United Domestic Industries. *Signed by* : R. C. Peter, F. B. Meech, F. E. Needs.
- ‡ **Key, Arthur**, B.Sc.Hons., Ph.D., and D.Sc. (Leeds). British. Caxton House, Tothill Street, S.W. 1. Chemical Inspector, Ministry of Health. *Signed by* : J. W. Baker, F. J. Dent, W. A. Wightman.
- ‡ **Lockhart, George Watson**, B.Sc. (Edin.). Scottish. 40, Henrietta Street, Ashton under Lyne. Research Chemist with John C. Carlson, Ltd., Weir Mill, Mossley, Lancs. *Signed by* : Neil Campbell, E. G. V. Percival, Mowbray Ritchie.
- \* **Long, Frank**, B.Sc.Hons. (Manc.). British. 12, Central Avenue, Woodheys, Sale. Research Student. *Signed by* : F. S. Spring, H. T. Openshaw, A. E. Gillam.
- † **McDavid, James Wallace**, C.B.E., M.Sc. (Manc.), D.Sc. (Edin.), F.R.I.C., M.I.Chem.E. British. Crescent Park, Ardrossan. Joint Managing Director I.C.I. (Explosives), Ltd. *Signed by* : J. Weir, A. G. White, David Traill.
- ‡ **Marks, Augustus James**. 16 Years engaged on manufacture of organic and heavy chemicals, and erection and maintenance of plant. British. 4, Mount Royd, Manningham, Bradford. Managing Director of A. H. Marks & Co., Ltd. *Signed by* : H. J. Hodsman, D. T. A. Townend, T. G. Carruthers.
- (b) **Marsh, Charles Arnold**. Internal student, London University, Passed B.Sc.(Gen.) in Physics as subsidiary subject for B.Sc.(Hons.) Chemistry. British. 176, Artic Road, Cowes. Member of H.M. Forces. Previous occupation : Research assistant chemist. *Signed by* : A. J. Edwins, G. Newbery, Julius N. Ashley.
- \* **Marsh, Harry**. British. Woods Terrace, Murton Colliery, Co. Durham. 3rd year Honours Student in Chemistry. *Signed by* : R. Raper, G. A. Swan, Wesley Cocker.
- (a) **Michelson, Michael**. British. 29, Victoria Street, North Shields. Undergraduate, Final Hons. Chemistry, University of Durham. *Signed by* : Wesley Cocker, Richard Raper, G. R. Clemo.
- (a) **Nicholson, George Almond**. British. 3, Earsdon Terrace, Ryhope. Undergraduate, Final Honours Chemistry, University of Durham. *Signed by* : Richard Raper, Wesley Cocker, G. R. Clemo.
- † **Osborn, Harry William Edward**, F.R.I.C., A.M.I.Chem.E. British. 43, Lyncroft Avenue, Pinner. Research and Development Chemist. *Signed by* : Alex. Findlay, H. J. T. Ellingham, R. Leslie Collett.
- (b) **Reid, William Russell**, B.Sc.Hons. (Edin.). Scottish. c/o Mrs. Buck, 63, Victoria Road, Stroud Green, N. 4. Development Chemist with British Glues and Chemicals. *Signed by* : James Kendall, Neil Campbell, E. G. V. Percival.
- † **Robertson, Alan**, B.Sc.Hons. (Lond.), 9 years industrial research. British. 4, Thames Avenue, Thornaby on Tees. Research Chemist. *Signed by* : M. P. Applebey, A. J. Prince, A. W. Taylor.
- † **Shadbolt, Frederick Stanley**, F.R.I.C. British. 11, Godstone Road, Kenley. Research Chemist. *Signed by* : Alex. Findlay, H. J. T. Ellingham, R. Leslie Collett.
- (b) **Smales, Geoffrey Irving**, B.Sc.Hons. (Lond.). British. 21, Orchard Avenue, Shepherd's Lane, Dartford. Analytical Chemist at the Wellcome Chemical Works. *Signed by* : G. E. Foster, R. Lindsay Grant, T. Dewing.
- ‡ **Walters, William Ivan**, A.M.I.A.E., F.R.S.A., Member of Institute of Metals and Iron and Steel Institute. British. 1, Monks Road, Banstead. Chairman and Managing Director of "The Walterisation Co., Ltd." Purley Way, Croydon. *Signed by* : J. W. Smith, Sunil C. Mukhopadhyay, P. F. Holt.
- Weller, Owen George**, B.Sc.Hons. (Lond.), A.R.C.S., A.R.I.C. British. c/o Royal Empire Society, Northumberland Avenue, W.C. 2. Chemist employed by Burmah Oil Co., at Digboi Refinery, Upper Assam. *Signed by* : A. A. Eldridge, L. S. Theobald, P. C. Bull.
- (b) **Whitham, Barclay Thorpe**, B.Sc.Hons. (L'pool), A.R.I.C. British. 1, Grafton Drive, Upton, Wirral. Research Chemist, Shell Marketing and Refining Co., Ltd. *Signed by* : C. N. Thompson, R. B. Bentley, S. A. Bryant.
- Woolf, Lewy Isaac**, B.Sc. (Lond.). British. c/o Research Department, Messrs. Allen & Hanburys, Ltd., Ware. Research Chemist. *Signed by* : C. K. Ingold, H. G. Poole, J. N. E. Day.

#### UNDER SPECIAL PROVISION APPERTAINING TO CANDIDATES RESIDENT ABROAD.

- Gould, George Charles**, F.R.S.A., M.Inst.P., M.Inst.F., Mem.A.S.M.E. English. Sind Club, Karachi, India Command. Deputy Assistant Director Mechanical Engineers. *Signed by* : S. S. Bhatnagar.
- Mowry, David Thomas**, B.A. (Wooster), M.Sc. and Ph.D. (Ohio State Univ.), American. Monsanto Chemical Company, Central Research Department, Nicholas Road, Dayton, Ohio. Research Chemist. *Signed by* : Charles Allen Thomas.

\* Reduced annual subscription.

‡ Two-body.

† Three-body.

(a) Junior Membership two-body.

(b) Junior Membership three-body.

## PAPERS RECEIVED

List of papers received between May 17th and June 21st, 1945. (This list does not include the titles of papers which have been read at a Scientific Meeting or which have appeared in the *Journal*.)

- "Decompositions of diazonium salts by sodium sulphite and sodium acetate. Part II. 3-Nitro-1-naphthylamine." By H. H. HODGSON and D. E. HATHWAY.
- "Oxidative ring-closure in the Friedel-Crafts reaction. Part I. Condensation of  $\beta$ -naphthoyl chloride with  $\alpha$ -methylnaphthalene." By G. D. BUCKLEY.
- "Photo-reactions. Part XI. Reactions in sunlight involving: (a) Formation of triaryl methyl peroxides by the action of oxygen on triaryl methanes. (b) Dehydrogenation effected by oxygen. (c) Dehydrogenation effected by *p*-benzoquinone and phenanthraquinone." By A. SCHÖNBERG and AHMED MUSTAFA.
- "Electrolytic dissociation processes. Part IV. The ionisation of a carbon-halogen bond by inorganic halides." By F. FAIRBROTHER.
- "The associating effect of the hydrogen atom. Part XII. The N-H-N bond. The structure and tautomerism of cyanamides." By L. HUNTER and H. A. REES.
- "Experiments on the synthesis of purine nucleosides. Part XI. The synthesis of 9-*d*-xylopyranosido-2-methylthioadenine and its conversion to 9-*d*-xylopyranosidoadenine." By G. A. HOWARD, B. LYTHGOE, and A. R. TODD.
- "Oxidative ring-closure in the Friedel-Crafts reaction. Part II. Condensation of aromatic acid chlorides with naphthalene derivatives." By G. D. BUCKLEY.
- "The preferential reduction of nitro-groups in polynitro-compounds. Part III. The preparation of 3:6-dinitro-1:8-naphthylenediamine from 1:3:6:8-tetranitronaphthalene." By H. H. HODGSON, E. R. WARD, and J. S. WHITEHURST.
- "Structure of compounds of ferrocyanide type. Part I. Crystal structure of hexamethylisonitrilo ferrous chloride." By H. M. POWELL and G. W. R. BARTINDALE.
- "Chemotherapeutic agents of the sulphone type. Part I. Sulphones containing a *p*-aminophenyl group." By J. WALKER.
- "Chemotherapeutic agents of the sulphone type. Part II. Sulphones related to benzamidine and benzylamine." By A. T. FULLER, (MISS) I. M. TONKIN, and J. WALKER.
- "Contributions to the chemistry of synthetic antimalarials. Part I. Some dialkylaminoalkylamino derivatives of pyridine and thiazole." By J. N. ASHLEY and J. F. GROVE.
- "The persulphate-iodide reaction. Part III. Specific effects of monovalent and bivalent cations. The activation energy of the reaction." By W. J. HOWELLS.
- "Attempts to find new anti-malarials. Part XXIV. Derivatives of *o*-phenanthroline (7:8:3':2'-pyridoquinoline)." By (MISS) B. E. HALCROW and W. O. KERMACK.
- "Symmetrical dicarbocyanines having a methyl group as substituent on the chain." By (MISS) F. M. HAMER and R. J. RATHBONE.
- "*N*-Substituted 5-aminoacridines." By D. J. DUPRÉ and F. A. ROBINSON.
- "The resorcitols. Part I. Isolation of *cis*- and *trans*-isomers; some derivatives." By W. RIGBY.
- "The resorcitols. Part II. Resolution of *trans*-resorcitol." By W. RIGBY.
- "The resorcitols. Part III. Oxidation products." By W. RIGBY.
- " $\alpha$ -Methylenic reactivity in olefinic systems. Part II. The reaction between olefines and phenyl *iso*-cyanate: evidence relating to the catalytic action of stannic chloride." By J. W. BAKER and J. B. HOLDSWORTH.
- "*N*-2:4-Dinitrophenyl-*N'*-nitrourea: A reagent for primary and secondary amines." By (MISS) J. L. McVEIGH and J. D. ROSE.
- "2:4-Dinitrophenylsemicarbazide: A reagent for aldehydes and ketones." By (MISS) J. L. McVEIGH and J. D. ROSE.
- "Reactions of alkylisofornanilides. Part I. With carboxylic acids, sulphonic acids, and sulphonamides." By E. B. KNOTT.
- "New syntheses of heterocyclic compounds. Part IV. 3-Azaphenthiazines." By V. A. PETROW and E. L. REWALD.
- "Structure and antimalarial activity. Part I. Some acridine derivatives." By (MISS) D. MURIEL HALL and E. E. TURNER.
- "Structure and antimalarial activity. Part II. *iso*Alloxazines, quinoxalines, and quinoxalocyclopentadienes." By (MISS) D. MURIEL HALL and E. E. TURNER.

- " Studies on phosphorylation. Part II. The reaction of dialkyl phosphites with polyhalogen compounds in presence of bases. A new method for the phosphorylation of amines." By F. R. ATHERTON, H. T. OPENSHAW, and A. R. TODD.
- " 2-*p*-Aminobenzenesulphonamido-pyrimidines. Preparation by a novel route." By F. L. ROSE and G. SWAIN.
- " Some derivatives of 2 : 2-*bis*-(4-chlorophenyl)-1 : 1 : 1-trichloroethane (DDT)." By O. G. BACKEBERG and J. L. C. MARAIS.
- " A contribution to the study of nicotine and the synthesis of 7-azaindole and derivatives." By G. R. CLEMO and G. A. SWAN.
- " Dissociation constant, solubility, and the pH-value of the solvent." By H. A. KREBS and J. C. SPEAKMAN.



July, 1945.

# PROCEEDINGS OF THE CHEMICAL SOCIETY.

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## OFFICIAL ANNOUNCEMENTS

### ACKNOWLEDGMENTS.

The President has received the following letters in reply to his cables sent on the occasion of the Anniversary Meeting on April 19th, 1945 :

*American Chemical Society,  
1155, Sixteenth Street, N.W.,  
Washington, D.C.  
April 25th, 1945.*

MY DEAR PRESIDENT HAWORTH,

On behalf of the Board of Directors and members of the American Chemical Society I wish to acknowledge with very real appreciation your cablegram just received sending us the cordial greetings from the Officers, Council, and Fellows of The Chemical Society at the time of your 104th anniversary and your sympathy on the great loss which recently came to our Country and the world.

I sincerely trust that the great impediments that have come to both of our organizations incident to the war will soon be removed and that we may go forward together in advancing chemistry and its usefulness to mankind, which is the basic objective of both of our organizations.

Sincerely yours,  
CHARLES L. PARSONS,  
*Secretary.*

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*Société Chimique de Belgique,  
Rue des Carmelites, 164,  
Bruxelles.  
le 10 juin 1945.*

MON CHER COLLÈGUE,

J'ai lu ce jour devant nos membres, au cours de la première assemblée générale que nous avons eue depuis le début de la guerre, l'adresse que vous avez bien voulu nous envoyer à l'occasion du meeting du 104<sup>e</sup> anniversaire de la Chemical Society of London.

C'est avec une émotion intense que nous avons reçu ce message de nos amis et collègues d'Outre-manche, le premier qui nous arrivait, après tant de dures années d'épreuves et d'oppression, du monde libre et fier qui nous a porté secours et nous a délivré par sa victoire totale.

Au nom de tout nos membres, j'envoie à vous même et à tous nos confrères de la Chemical Society, nos remerciements très sincères pour votre attention qui a touché notre coeur. J'exprime le voeu de voir les liens d'amitié entre nos deux pays et entre nos deux sociétés se resserrer encore plus intimement si possible que par le passé.

Veillez agréer, mon cher Collègue, l'assurance de mes sentiments les plus distingués.

Le Président,  
A. GILLET.

---

*Faculté de Médecine de Paris,  
12, rue de l'Ecole de Médecine,  
Paris VI<sup>e</sup>.  
le 25-Avril 1945.*

MON CHER PRÉSIDENT ET TRÈS HONORÉ COLLÈGUE,

Au nom de la Société Chimique de France dont j'ai l'honneur d'être le Président depuis janvier 1945, je vous adresse tous mes remerciements pour les sentiments si chaleureux et si cordiaux que vous avez exprimés dans votre télégramme du 19 avril.

A mon tour je vous adresse, avec le cordial salut de la Société Chimique de France, l'expression de nos sentiments de vive admiration et de profonde reconnaissance pour la part prise par la Grande Bretagne dans la libération de notre sol et dans le triomphe de la liberté.

Je vous ai adressé aujourd'hui par l'intermédiaire du Ministère des Affaires étrangères un télégramme

rédigé en termes un peu laconiques mais dont voici le texte intégral : " M. le Président de la Chemical Society, Nous partageons votre enthousiasme pour la victoire prochaine et votre foi dans l'avenir de l'humanité. Nous admirons les immenses efforts et les lourds sacrifices de la nation anglaise et de ses alliés pour libérer la France et nous restons profondément fidèles à l'amitié franco-anglaise. Nous vous adressons tous nos vœux pour la prospérité de la Chemical Society à l'occasion du 104ème anniversaire de sa fondation. Tiffeneau."

Il me reste à vous remercier personnellement pour vos très aimables attentions vis-à-vis de la Société Chimique de France et je vous serais très reconnaissant de vouloir bien exprimer tous nos remerciements à vos collègues du Conseil et aux membres de votre Société. Pour ma part j'avais déjà écrit en septembre dernier au Secrétaire de la Chemical Society en le priant d'exprimer à la Chemical Society toute mon admiration pour le magnifique effort de la Grande-Bretagne venant libérer la France. Permettez-moi d'y ajouter mes sentiments personnels d'admiration pour l'apport considérable des chimistes anglais dans le progrès de la chimie et tout particulièrement ceux que vous-même avez réalisés avec vos nombreux élèves dans le domaine des sucres.

Veillez agréer, mon cher Président, avec mes sentiments de vive sympathie, l'assurance de ma considération la plus distinguée.

M. TIFFENEAU.

#### DEATHS.

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

	Elected.	Died.
Charles Kelway Bamber .....	1914	June 22nd, 1945.
Frank Gossling .....	1890	June 21st, 1945.
Richard Greenhalgh .....	1925	March 5th, 1945.
Owen Lewis Hughes .....	1934	May 14th, 1945.
Walter Eric James .....	1941	June 7th, 1945.
Alexander Kenneth Miller .....	1880	June 19th, 1945.
Clarence Smith .....	1904	June 28th, 1945.

#### ACKNOWLEDGMENTS.

The thanks of the Council have been conveyed to the Royal Society for a grant of £200 from the Government Grant towards the cost of the Society's publications for 1945, and to Messrs. G. H. Elliott, J. R. Grey, A. Merrick and A. Wolff for presenting publications of the Society.

#### FELLOWSHIP.

The following 26 candidates were elected Fellows of the Chemical Society on June 21st, 1945 :

Peter William Arnold.	James William Hatch.	John Bryant Matthews.
Archibald Raymond Boyle.	Franz Moritz Herzberg.	Eric Ackerley O'Brien.
Terence John Cahill.	Edward Stuart Hornby.	Max Pianka.
Arthur Henry John Cross.	Eric Neil Jenkins.	Evan Roberts.
Jean Margaret Crum.	Francis Bernard Jones.	Keith William Russell.
Peter Sidney Dunnett.	Max Berthold Klein.	Ernest John Tauch.
James Arthur Edge.	John Wilfred Linnett.	Harry Hyman Topper.
John Brook Fortune.	Ronald James Loneragan.	Arthur Walton.
Heiem Gomberg.	Brian Arthur Loveridge.	

#### LIST OF APPLICATIONS FOR FELLOWSHIP

(Fellows wishing to lodge objections to the election of these candidates should communicate with the Honorary Secretaries within ten days of the date of publication of the Journal for July, 1945. Such objections will be treated as confidential. The forms of application are displayed in the Library.)

- †**Bernhardt, Frederick William.** British. 19, Wilton Grove, Wimbledon, S.W. 19. Chief Research and Analytical Chemist at Dussek Bitumen and Taroleum, Ltd., Empress Wharf, Sherman Street, Bromley by Bow, E. 3. Signed by : Arthur L. Beattie, Vernon Harbord, L. G. Gabriel.
- (a)**Beswick, Gordon,** Inter.B.Sc. (Lond.). British. 14, Torrington Road, Swinton, Manchester. Student at the Royal Technical College, Salford, studying for B.Sc. Final. Signed by : E. G. Edwards, E. Isaacs, D. B. Kelly.
- (b)**Coleman, Russell Neville.** British. Cooper's Arms, Commercial Road, Bulwell, Nottingham. Assistant Mining Chemist. Signed by : E. B. R. Prideaux, A. Smith, H. F. W. Taylor.
- Corker, Alfred Eric,** A.R.I.C., Ph.C., M.P.S. British. 22, Courtfield Gardens, S.W. 5. Technical Assistant, Directorate of Medical Supplies, Ministry of Supply. Signed by : Alex. Findlay, R. Leslie Collett, H. J. T. Ellingham.
- (b)**Durham, Raymond Wilson.** 4 years' Industrial experience. British. 14, Coniston Road, Stockton-on-Tees. First year Hons. Chem. Student, Durham University. Signed by : G. H. Christie, C. W. Gibby, W. A. Waters.

- Elmore, Donald Trevor**, B.Sc. (Lond.), A.R.C.S. British. University College, University Park, Nottingham. Research Assistant. *Signed by* : D. O. Jordan, J. Masson Gulland, E. O'F. Walsh.
- \***Green, Mino**, H.S.C. (Oxford and Cambridge). American. 27, Regents Court, Park Road, N.W. 1. First year Hons. Chem. Student at the University of Durham. *Signed by* : G. H. Christie, W. A. Waters, C. W. Gibby.
- ‡**Hewson, William Arnold**, B.Sc. (Lond.), A.R.I.C. British. 140, Farnaby Road, Bromley. Research Chemist with Radio Transmission Equipment, Ltd., 122, Brixton Hill. *Signed by* : R. Ll. Rees, G. White, J. M. Allan.
- †**Linton, Keith Frank Astell**, B.Sc. (Lond.), D.I.C., A.R.I.C. British. 3, St. Philips Road, Surbiton. Chemist, Southern Railway Co. *Signed by* : Ernest A. Dancaster, J. Kenyon, L. L. Katan.
- ‡**Park, James Ritchie**, M.Sc. (Lond.). British. 10, Crooksbar Lane, Norton, Stockton-on-Tees. Chemist, I.C.I., Ltd. (Billingham Division). *Signed by* : A. J. Prince, M. P. Applebey, G. I. Higson.
- \***Pegg, John Arthur**, Natural Science Exhibitioner, Magdalen College, Oxford. British. 66, Mackenzie Street, Derby. Studying for an Honours Degree in Chemistry at Oxford University. *Signed by* : Ronald P. Bell, F. E. King, L. E. Sutton.
- ‡**Pinniger, Edward Bertram**. British. Dalegarth, 5, Endlebury Road, Chingford, E. 4. Chemist and Technical Manager, The British Homophone Co., Ltd., New Cross. *Signed by* : R. Bruce Harley, J. R. I. Hepburn, Charles G. M. de Worms.
- \***Powell, Gwyneth Audrey**. British. St. Hilda's College, Oxford. Reading for Honours Degree in Chemistry. *Signed by* : Ronald P. Bell, H. W. Thompson, C. N. Hinshelwood.
- \***Pridgeon, Eleanor Mary**, B.Sc. (Lond.). British. River Farm, Keddington, Louth, Lincs. School Teacher. *Signed by* : E. E. Turner, Mary S. Lesslie, Margaret M. Jamison.
- \***Pursell, Anthony John Richard**. British. Underhayer, St. Stephens, Launceston. Honours Chemistry Student, Oxford University. *Signed by* : Ronald P. Bell, D. Ll. Hammick, Harry Irving.
- Rushton, Arthur**, Inter.B.Sc. (Lond.), M.R.S.T., Certificated Schoolmaster. British. High Hill, Essington, near Wolverhampton. Senior Science Master at Heaton Moor College, Stockport. *Signed by* : Joseph H. Roberts, H. T. Openshaw, A. E. Gillam.
- ‡**Soames, Thomas Arthur**, B.Sc.Hons. (Lond.). British. 115, St. Paul's Avenue, Kenton. Research Chemist, Messrs. Coates Bros. & Co., Ltd., Easton Street, W.C. 1. *Signed by* : F. A. Askew, D. C. Jones, H. D. K. Drew.
- (b)**Shapland, John Dee**, Inter.B.Sc. (Scholarship at Imperial College). British. Chislehurst, Sydenham Villas Road, Cheltenham. Student. *Signed by* : A. A. Eldridge, H. V. A. Briscoe, A. G. Pollard.
- \***Smith, Julian Ross**. British. Tanford, 87, Wrottesley Road, Tettenhall, near Wolverhampton. Honours Student Chemistry, Oxford University. *Signed by* : Ronald P. Bell, D. Ll. Hammick, R. S. Asquith.
- Stopes-Roe, Harry Verdon**, B.Sc. (Lond.), A.R.C.S. British. Norbury Park, near Dorking. University Teacher. *Signed by* : A. A. Eldridge, J. A. Kitchener, H. V. A. Briscoe.
- Thomas, Leo Harvey**, M.Sc. (Wales), A.R.I.C. British. 9, Aubrey Road, Penygraig, Rhondda. Chemistry Lecturer at the School of Mines and Technology, Treforest. *Signed by* : W. J. Jones, S. T. Bowden, N. M. Cullinane.
- \***Trotman-Dickenson, Aubrey Fiennes**. British. Balliol College, Oxford. Reading for Honours Degree in Chemistry. *Signed by* : Ronald P. Bell, W. A. Cowdrey, H. W. Thompson.
- \***Taylor, Helan Vivien**. British. Troutbeck Hotel, Ilkley. Reading for Honour's Degree in Chemistry (Oxford). *Signed by* : Ronald P. Bell, H. W. Thompson, John Gadsby.
- †**Truesdale, Thomas**. Higher National Certificate in Chemistry. British. 26, Partington Street, Heywood, Lancs. At present serving in H.M. Forces. *Signed by* : O. Rhys Howell, John K. Wood, G. Baddeley.
- †**White, Ernest Eric**, Inter.B.Sc., Final B.Sc. Physics, subsidiary (Lond.), A.R.I.C. British. 62, St. Andrews Road, Ilford. Senior Chemist with The Plessey Co., Ltd., Vicarage Lane, Ilford. *Signed by* : W. H. Simmons, E. R. Wellburn, J. O. Lay.
- \***Williams, Gareth Howel**, B.Sc.Hons. (Lond.), awarded November, 1945. British. 16, Esmond Road, Bedford Park, W. 4. Research Student, University College. *Signed by* : H. G. Poole, J. N. E. Day, Henry Terrey.
- ‡**Winsnes, Paul Hesbo**, Associate of Leathersellers' Technical College, British. Mayfield, Cheltenham Avenue, Ipswich. Chemist and Works Manager with Messrs, W. & A. J. Turner (Ipswich), Ltd., The Tannery, Bramford Road, Ipswich. *Signed by* : M. P. Balfe, J. H. Bowes, R. G. Wallis.

#### UNDER SPECIAL PROVISION APPERTAINING TO CANDIDATES RESIDENT ABROAD.

- Beyerman, Hugh Christiaan**, dipl.Ing.chem., D.Sc. (Zurich). Dutch. Hyde House, 51, Queensborough Terrace, W. 2. Technical Staff of the Netherlands Government, c/o Department of Trade & Industry, Stratton House, Stratton Street, W. 1. *Signed by* : L. Ruzicka.
- Buu-Hoi, Ng. Ph.**, B.Sc. (Hanoi), D.Sc. (Paris). Licencié-ès-Sciences, pharmacien ancien Interne des Hôpitaux, Lauréat de l'Académie des Sciences (Paris). Free Indochinese. 17, Rue des Fossés Saint-Marcel, Paris, Ve. Chargé de Recherches à l'Ecole Polytechnique and Chimiste de l'Institut du Radium, Paris. *Signed by* : J. W. Cook.
- Hoehn, Willard Max**, A.B.S. (Blackburn College), B.S. (Univ. of Illinois), Ph.D. (Iowa State College). Nine years Research experience. American. Research Laboratories, George A. Breon & Co., Box 769, Kansas City, 10. Director of Laboratories. *Signed by* : James A. Austin, L. V. Sorg.
- Fletcher, Hewitt Grenville, Jr.**, S.B. and Ph.D. (Massachusetts Institute of Technology). American. Massachusetts Institute of Technology, Room 4-447, Cambridge 39, Mass. Instructor in Chemistry. *Signed by* : Clifford B. Purves.
- Walby, Alfred Leonard**, M.B., B.Ch. (Q.U.B.). British. 56, Dublin Road, Belfast, Northern Ireland. Senior Medical Officer of R.A.F. Stations, S.E.A.A.F. *Signed by* : Harry Sharpe.

\* Reduced annual subscription.

‡ Two-body.

† Three-body.

(a) Junior Membership two-body.

(b) Junior Membership three-body.

## PAPERS RECEIVED

List of papers received between June 21st and July 31st, 1945. (This list does not include the titles of papers which have been read at a Scientific Meeting or which have appeared in the *Journal*.)

- "Synthetical experiments on the constitution of  $\alpha$ -biotin. Part I." By R. GHOSH, J. F. W. McOMIE, and J. P. WILSON.
- "The preparation of 7-nitro-2-naphthylamine and of 3:6-dinitronaphthalic anhydride." By H. H. HODGSON and E. R. WARD.
- "The acylation of 2-methyl-3-carbethoxy-4-hydroxythiophen." By J. H. BEYNON and A. B. A. JANSEN.
- "Reduction by dissolving metals. Part II." By A. J. BIRCH.
- "Reduction by dissolving metals. Part III." By A. J. BIRCH.
- "The vibrational spectra of esters and ketones." By H. W. THOMPSON and P. TORKINGTON.
- "The crystal structure of coronene. A quantitative X-ray investigation." By J. MONTEATH ROBERTSON and J. G. WHITE.
- "The chemistry of gum tragacanth. Part I. Tragacanthic acid." By SYBIL P. JAMES and F. SMITH.
- "The chemistry of gum tragacanth. Part II. Derivatives of *d*- and *l*-fucose." By SYBIL P. JAMES and F. SMITH.
- "The chemistry of gum tragacanth. Part III." By SYBIL P. JAMES and F. SMITH.
- "The capsular polysaccharide of rhizobium radicicolum." By (MISS) E. SCHLÜCHTERER and M. STACEY.
- "The union of gaseous oxygen with methyl oleate, linoleate, and linolenate." By F. D. GUNSTONE and T. P. HILDITCH.
- "A possible structure of  $\alpha$ -naphthol and its relation to its coupling with aromatic diazo-compounds." By B. GLUCK.
- "A possible isomerism of  $\alpha$ -naphthol-2-carboxylic acid." By B. GLUCK and M. PIANKA.
- "Melanin formation." By G. R. CLEMO and J. WEISS.
- "Studies on hydrogen cyanide. Part XV. The action of hydrogen chloride on acetonitrile." By L. E. HINKEL and G. J. TREHARNE.
- "New potential chemotherapeutic agents. Part I. Derivatives of aminoquinoxalines." By F. E. KING and R. J. S. BEER.
- "Sulphonamides. Part I. The action of ammonia on sulphanilamidobenzoic esters in the light of the general theory of ester ammonolysis." By J. H. GORVIN.
- "Sulphonamides. Part II. The action of amines on ethyl 4-sulphanilamidobenzoate. Some alternative preparative methods for sulphanilamidobenzamides." By J. H. GORVIN.
- "The bromination of 4:4'-diamidino- $\alpha$ -*xy*-diphenoxypropane and of 4:4'-diamidino-stilbene." By A. J. HENRY.
- "New potential chemotherapeutic agents. Part II. Derivatives of 3-aminophenazone." By F. E. KING and T. J. KING.
- "The kinetics of exchange reactions. Part III. Influence of solvent and molecular structure." By L. J. LE ROUX, C. S. LU, S. SUGDEN, and R. H. K. THOMSON.
- "Mesohydric tautomerism." By L. HUNTER.
- "Mercurous perchlorate as a volumetric reagent for iron." By W. PUGH.
- "*N*-Dichlor monoethanolamine hydrogen sulphate (sodium salt)." By K. H. PAUSACKER.
- "The chemistry of xanthic acid derivatives. Part I. The preparation and comparative properties of isomeric xanthates and dithiocarbonates." By G. BULMER and F. G. MANN.
- "The chemistry of xanthic acid derivatives. Part II. The thermal decomposition of disulphurdicarbonylic esters." By G. BULMER and F. G. MANN.
- "The chemistry of xanthic acid derivatives. Part III. The interaction of carboxylic acid chlorides and potassium ethyl xanthate." By G. BULMER and F. G. MANN.
- "The chemistry of xanthic acid derivatives. Part IV. The interaction of sulphonyl chlorides and potassium ethyl xanthate." By G. BULMER and F. G. MANN.
- "Formation of phthalides by the Diels-Alder reaction." By A. W. JOHNSON.
- "The synthesis and properties of 1:7-dialkyl xanthines." By F. G. MANN and J. W. G. PORTER.
- "The interconversion of iron oxides and sulphides. Part I. The action of hydrogen sulphide on iron oxides." By R. H. GRIFFITH and A. R. MORCOM.
- "The interconversion of iron oxides and sulphides. Part II. The oxidation of iron sulphides." By R. H. GRIFFITH and A. R. MORCOM.
- "The preparation of olefines from aldehydes and ketones." By R. H. GRIFFITH.
- "The carbonyl constituents of eucalyptus oils. Part IV. The constitution of phellandral. *d*-, *l*-, and *dl*- $\beta$ -isopropyladipic acids." By G. BURGER and A. KILLEN MACBETH.

- "Epimeric alcohols of the cyclohexane series. Part V. The inactive 3-methylcyclohexan-1-ols." By A. KILLEN MACBETH and J. A. MILLS.
- "Syntheses of 2-monosubstituted and 2:3-disubstituted quinoxalines." By A. H. GOWENLOCK, G. T. NEWBOLD, and F. S. SPRING.
- "The application of the Hofmann reaction to the synthesis of heterocyclic compounds. Part III. Synthesis of 3-alkyl-2:4-diketo-1:2:3:4-tetrahydroquinazolines from *N*-alkylphthalamides." By F. S. SPRING and J. C. WOODS.
- "Studies in the detoxication of catalyst poisons. Part II. The use of various oxidising agents for the detoxication of cystein." By E. B. MAXTED.
- "Studies in the detoxication of catalyst poisons. Part III. The detoxication of cystein with metallic per-acids." By E. B. MAXTED and A. MARSDEN.
- "The sorption of condensable vapours by porous solids. Part III. Multimolecular adsorption." By A. G. FOSTER.
- "The sorption of condensable vapours by porous solids. Part IV. Linear isothermals and the Langmuir equation." By A. G. FOSTER.
- "Characterisation of 2:6-dimethyl-*d*-galactose." By D. J. BELL.
- "Derivatives of 1-azanthraquinone. Part I." By G. R. CLEMO and G. W. DRIVER.
- "The crystal structure of tribromo (trimethylphosphine) gold." By M. F. PERUTZ and (MISS) O. WEISZ.
- "The Preparation of some 2:3-naphthalene derivatives." By H. H. HODGSON and D. E. HATHWAY.
- "Replacement of the diazonium- by the acetoxy-group, and improved preparations of non-steam volatile phenols. Part I. 3-Nitrophenol and 2-nitro-*p*-cresol." By H. H. HODGSON.
- "An interpretation of the Sandmeyer reaction. Part VII. The formation of complex salts between aryl diazonium chlorides and ferric chloride of general formula,  $R \cdot N_2^{\oplus} \} FeCl_4^{\ominus}$ , and the decomposition of *p*-nitrobenzenediazonium chloride by ferrous salts." By H. H. HODGSON and D. D. R. SIBBALD.
- "The preferential reduction of nitro-groups in polynitro-compounds. Part IV. The preparation of 4:5-dinitro-2-naphthylamine from 1:3:8-trinitronaphthalene, and a comparison of sodium sulphide reductions of available dinitronaphthalenes." By H. H. HODGSON and E. R. WARD.
- "Studies on sugar osazones. Part VII. A comparison of the phenylosazones prepared from 3:6-anhydro-*d*-glucose and 3:6-anhydro-*d*-galactose with the anhydro-osazones prepared from *d*-galactosazone and *d*-glucosazone by the method of Diels and Meyer." By E. G. V. PERCIVAL.
- "Synthesis of diamino sulphones." By A. A. GOLDBERG.
- "The constitution of *pseudo*-santonin. Part I." By G. R. CLEMO and W. COCKER.
- "The constitution of *pseudo*-santonin. Part II. The preparation of certain dimethyl naphthols." By W. COCKER.



# THE CHEMICAL SOCIETY

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## NOTICE OF FORTHCOMING SCIENTIFIC MEETINGS

IN LONDON (Burlington House).

Thursday, October 4th, 1945, at 5 p.m.

Lecture on "Recent Work on Corrosion and Oxidation Reactions," by Dr. U. R. Evans, M.A.

Thursday, November 1st, 1945, at 5 p.m.

Meeting for the reading of original papers. (Further particulars will be announced.)

Thursday, December 6th, 1945, at 5 p.m.

Meeting for the reading of original papers. (Further particulars will be announced.)

Note: The attention of Fellows is specially drawn to the change of time of meeting to 5 p.m.

## OUTSIDE LONDON.

EDINBURGH.

Tuesday, November 27th, 1945, at 7 p.m.

Lecture on "The Structure and Chemistry of Metallic Crystals," by Professor G. D. Preston, M.A., Sc.D., F.Inst.P. Joint Meeting with the University Chemical Society and the local sections of the Royal Institute of Chemistry and the Society of Chemical Industry to be held in the Biochemical Lecture Theatre of the University, Teviot Place.

GLASGOW.

Friday, October 26th, 1945, at 3.30 p.m.

Lecture on "Long Chain Molecules," by Sir Robert H. Pickard, D.Sc., F.R.S. Joint Meeting with the Glasgow University Alchemists' Club and the Andersonian Chemical Society. To be held in the Large Lecture Theatre of the Chemistry Department, The University.

Friday, November 16th, 1945, at 7.15 p.m.

Lecture on "Polynucleotides and Nucleoproteins," by Professor J. M. Gulland, D.Sc., F.R.S. To be held in the Royal Technical College.

LEEDS.

Monday, November 26th, 1945, at 6.30 p.m.

Tilden Lecture on "Substitution," by Professor E. D. Hughes, D.Sc., F.R.I.C. To be held in the Chemistry Lecture Theatre of the University.

LIVERPOOL.

Thursday, November 15th, 1945, at 4 p.m.

Lecture on "The Structure of the Boron Hydrides and Related Compounds," by Mr. R. P. Bell, M.A., F.R.S. To be held in the Muspratt Lecture Theatre of the University.

MANCHESTER.

Monday, October 29th, 1945, at 7 p.m.

Lecture on "The Publications of the Three Chartered Bodies," by Mr. F. P. Dunn, B.Sc., F.R.I.C. Joint Meeting with the local sections of the Royal Institute of Chemistry and the Society of Chemical Industry to be held in the Engineers' Club, Albert Square.

Thursday, November 15th, 1945, at 6 p.m.

Meeting for the reading of original papers. To be held in the Chemistry Lecture Theatre of the University. (Further particulars will be announced.)

*NORTH WALES.*

Thursday, November 22nd, 1945, at 5.30 p.m.

**Lecture** on "Colchicine: its Chemistry and Some Biological Effects," by Professor J. W. Cook, D.Sc., F.R.S. Joint Meeting with the University College of North Wales Chemical Society, to be held in the Department of Chemistry at University College, Bangor.

*NOTTINGHAM.*

Friday, November 2nd, 1945, at 7 p.m.

**Lecture** on "Some Problems in the Chemistry of the Polysaccharides," by Professor E. L. Hirst, M.A., D.Sc., F.R.S. To be held in the Chemistry Lecture Theatre of University College.

Thursday, November 29th, 1945, at 4 p.m.

**Lecture** on "Structural Inorganic Chemistry," by Professor W. Wardlaw, D.Sc., F.R.I.C. Joint Meeting with the University College Physical and Chemical Society to be held in the Chemistry Lecture Theatre of University College.

*SHEFFIELD.*

Friday, October 26th, 1945, at 6 p.m.

**Lecture** on "Flame," by Professor D. T. A. Towend, D.Sc. Joint Meeting with the South Yorkshire Section of the Royal Institute of Chemistry, to be held in the Chemistry Lecture Theatre of the University.

Friday, November 16th, 1945, at 5.30 p.m.

**Lecture** on "Our War Against Insect Pests," by Professor I. M. Heilbron, D.S.O., D.Sc., F.R.S. Joint Meeting with the University Chemical Society to be held in the Chemistry Lecture Theatre of the University.

*SOUTH WALES.*

Friday, November 23rd, 1945.

**Lecture** on "Colchicine: its Chemistry and Biological Effects," by Professor J. W. Cook, D.Sc., F.R.S. Joint Meeting with the local sections of the Royal Institute of Chemistry and the Society of Chemical Industry. To be held in Cardiff. (Further particulars will be announced.)



# PROCEEDINGS

OF THE

## CHEMICAL SOCIETY.

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### OFFICIAL ANNOUNCEMENTS

#### LIBRARY.

As from Monday, October 1st, the Library will revert to the pre-war hours of opening, namely :

Monday to Friday, from 10 a.m. to 9 p.m.

Saturday, from 10 a.m. to 5 p.m.

#### RESEARCH FUND.

A meeting of the Research Fund Committee will be held in November next. All persons, therefore, who have received grants, and whose accounts have not been declared closed by the Council, are informed that reports must be received by the Society not later than November 1st, 1945.

Applications for grants, to be made on forms obtainable from the General Secretary, must be received on or before November 1st, 1945. Applications from Fellows will receive prior consideration.

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

#### EDITORSHIP.

Professor C. S. Gibson, O.B.E., M.A., Sc.D., F.R.S., has agreed to act temporarily as Editor of the Society's publications.

#### BRITISH STANDARDS.

Draft revisions of the following existing British Standards have been received for technical comment :—

B.S. 517—1938, Cresylic Acid of High Orthocresol Content ;

B.S. 521—1938, Cresylic Acid (50/55 per cent. Metacresol) ;

B.S. 522—1938, Orthocresol, Metacresol and Paracresol ;

B.S. 523—1938, Phenol ;

B.S. 524—1938, Refined Cresylic Acid.

These have been placed in the Library, and Fellows wishing to make technical comments on them are requested to do so before September 28th, 1945, to the British Standards Institution, 28, Victoria Street, Westminster, London, S.W. 1.

#### FELLOWSHIP.

The following 43 candidates were elected Fellows of the Society on July 30th, 1945 :

John Thomas Adams.

William Anderson.

Audrey Barlow.

Ronald Bell.

Wolfe Berkman.

Richard Lye Blackmore.

David Glynwyn Robert Bonnell.

William Harry Douglas Boyes.

Fred Brown.

John Frederick Brown.

Geoffrey Donald Clarke.

Dennis Percy Collin Cleave.

William Allen Wesley Cummings.

Jack Davison.

George Dunn.

Bruce Duval.

Douglas Grey Eade.

James Alan Emlyn.

John McNeill Ferguson.

Thomas Gilbert Halsall.

Edward Gelles.

John George Gellner.

George Charles Gould.

Ernst Katscher.

Arthur Key.

George Watson Lockhart.

Frank Long.

James Wallace McDavid.

Augustus James Marks.

Charles Arnold Marsh.

Harry Marsh.

Michael Michelson.

David Thomas Mowry.

George Almond Nicholson.

Harry William Edward Osborn.

William Russell Reid.

Alan Robertson.

Frederick Stanley Shadbolt.

Geoffrey Irving Smales.

William Ivan Walters.

Owen George Weller.

Barclay Thorpe Whitham.

Lewy Isaac Woolf.

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## LIST OF APPLICATIONS FOR FELLOWSHIP

(*Fellows wishing to lodge objections to the election of these candidates should communicate with the Honorary Secretaries within ten days of the publication of the August JOURNAL. Such objections will be treated as confidential. The forms of application are displayed in the Library.*)

- (a) **Ansbacher, Henry**, B.Sc. (Lond.), A.R.C.S. British. 34, Forty Lane, Wembley Park. Analytical Chemist to International Chemical Co., Ltd., Braydon Road, N. 16. *Signed by* : J. J. Gordon, Geo. R. W. Wilkinson, Theodore White.
- Barany, Heinz Carl**, Ing.Chem. (State Institute for Chemistry Investigation and Industry, Vienna). Stateless, formerly Austrian. 11, Fitzjohns Avenue, N.W.3. Research Chemist to Dufay Chromex Ltd., Elstree. *Signed by* : B. Gluck, G. Colman Green, H. Surfleet.
- \***Barnes, Desmond Arthur Sidney**. Inter.B.Sc. and subsidiary Physics (with Radio) (Lond.). British. Connaught Hall, Wessex Lane, Swaythling, Southampton. Student, University College, Southampton, studying for B.Sc. (Special Chemistry). *Signed by* : S. H. Harper, Ishbel G. M. Campbell, N. K. Adam.
- \***Butterfield, David Elliott**. British. 2, Manor Park Road, Nuneaton. Reading Part II Chemistry, Cambridge University. *Signed by* : N. B. Chapman, B. A. Kilby, F. S. Dainton.
- †**Clark, Frank**, B.A. (Cantab.), B.Sc. (Lond.). A.R.I.C. British. 12, Fontmell Park, Ashford. Chemist, Ministry of Supply. *Signed by* : E. W. S. Press, L. H. A. Holmes, G. L. Hammond.
- ‡**Corbett, George Charles**. British. Bengairn, 42, Higher Bebington Road, Bebington, Wirral. Chemical Plant Superintendent. *Signed by* : George Brearley, J. Sowler, E. Finkelstone.
- (a)**Featherstone, Arthur Andrew Valentine**. Inter.B.Sc. (Lond.). British. 130, Widnes Road, Widnes. Assistant Chemist at Messrs. Albright & Wilson Ltd., Chemical Manufacturers, Widnes. *Signed by* : R. Owen, James F. Sumner, R. E. Robinson.
- \***Forster, William Atkinson**. British. 11, Wimborne Avenue, Sunderland, Co. Durham. Final year student reading for B.Sc. (Hons. Chemistry) at King's College, Newcastle. *Signed by* : W. M. Madgin, Richard Raper, G. R. Clemo.
- †**Greenstreet, Cyril Henry**, B.Sc. (Lond.), deferred until 1946. British. Confectioners, Station Lane, Hornchurch. Student at University College, London. *Signed by* : L. F. Gilbert, O. L. Brady, Henry Terrey.
- ‡**Haslam, John**, B.Sc. (Manc.). British. 3, The Oaks, Styal Road, Heald Green. Works Chemist, The Manchester Chemical Co., Ltd., Bradshaw Street, Manchester. *Signed by* : J. W. Herbert, F. S. Spring, Colin Campbell, G. N. Burkhardt.
- Higginbotham, Richard Staples**, B.Sc. (Lond.). British. 22, Woodlands Road, Heaton Mersey, Manchester. Research Officer, British Cotton Industry Research Association. *Signed by* : Douglas W. Hill, R. G. Fargher, J. C. Withers.
- ‡**Jackson, Peter John**, B.Sc. (Lond.). British. 16, Melrose Avenue, Sherwood, Nottingham. Analyst. *Signed by* : E. B. R. Prideaux, John C. Roberts, H. F. W. Taylor.
- ‡**Krase, Norman William**, B.S. in Ch.E. (University of Illinois), M.S. (American University), Ph.D. (Yale), 13 years as Professor of Chemical Engineering, 6 years as Chemical Engineer at Du Pont Co. American. E. I. Du Pont de Nemours & Co., Manfield House, 376—379, Strand, W.C. 2. European Technical Representative, E. I. Du Pont de Nemours & Co., Wilmington, Del. *Signed by* : E. A. Cooke, J. Ferguson, J. Haslam.
- (a)**Leighton, Desmond**, Inter.B.Sc. (Lond.). British. 8, Beaver's Lane, Hounslow. Assistant Research Chemist at Williams (Hounslow) Ltd., Aniline dye manufacturers. *Signed by* : W. Davey, R. G. Munson, Arthur E. James.
- ‡**Meggy, Alexander Bernard**, B.Sc. (Lond.), Ph.D. (Oxon.), A.R.I.C. British. 3, Stoneycote Road, Leicester. Head of Chemistry Department, College of Technology, Leicester. *Signed by* : Malcolm Crawford, L. Hunter, H. T. Openshaw.
- †**Mooney, George**, B.Sc. (Glas.), Ph.C., A.R.I.C. (pending). British. 33, Eastfields Road, Acton, W. 3. Research biochemist. *Signed by* : W. M. Cumming, A. A. Houghton, Rowland A. Evans.
- †**Maynard, Thomas Reginald Peter**, B.Sc. (Lond.). British. 21, Pelham Square, Brighton, 1. Research student at Imperial College, London. *Signed by* : B. Atkinson, J. A. Kitchener, A. A. Eldridge.
- \***Morrison, George Alfred**. Entitled to a B.A. Hons. (Oxon). British. Clyde Villa, 130, Fog Lane, Didsbury, Manchester, 20. Junior Research Officer, Shirley Institute, Didsbury, Manchester, 20. *Signed by* : F. M. Brewer, D. Ll. Hammick, J. C. Smith.
- †**Perry, Harold Arthur Dickins**, B.Sc. (Lond.), A.R.I.C. British. 43, Beech Terrace, Stowmarket. Research Chemist. *Signed by* : B. J. Balfe, W. H. Ferguson, J. J. Wark.
- \***Povah, Margaret**, B.Sc. (Lond.), London University Teachers' Diploma. British. 22, St. Alban's Crescent, Bourne-mouth. Assistant Mistress teaching Chemistry at Colston's Girls' School, Cheltenham Road, Bristol, 6. *Signed by* : E. E. Turner, Margaret M. Jamison, Edna D. Davidson.
- †**Rack, George de Rome**, A.R.I.C. British. 32, Coniston Road, Newton Estate, Lancaster. Research Chemist (Industrial) Messrs. Jas. Williamson & Son, Ltd., Lune Mills, Lancaster. *Signed by* : J. C. Lawson, T. McQuillen, G. R. Gedye.
- †**Reynolds, Edward Henry**, B.A., B.Sc. (Oxon), Diploma of Education (Oxon). British. 16, Lanercost Road, Tulse Hill, S.W. 2. Experimental Officer, Chemical Inspection Department, Ministry of Supply. *Signed by* : W. E. J. Field, D. Ll. Hammick, A. H. Coates.
- †**Rohan, Terence Anthony**, B.Sc. Hons. (Glas.), A.R.I.C. British. c/o 32, Dale Park Avenue, Carshalton. Research Chemist with British Industrial Solvents Ltd. Part-time Post-Graduate Research Student at London University. *Signed by* : J. Kenyon, A. Houston, M. P. Balfe.
- (a)**Royle, Alan Trevor**, B.Sc. Hons. (Manc.). British. 1, Longley Road, Worsley, Manchester. Works chemist. *Signed by* : M. G. T. Burrows, G. Ogden, H. F. Taylor.
- \***Stevens, Derrick John**, Inter.B.Sc. and Subsidiary Physics (Lond.). British. Connaught Hall, Wessex Lane, Swaythling. Chemistry Student, University College, Southampton. *Signed by* : S. H. Harper, Ishbel G. M. Campbell, N. K. Adam, H. W. B. Reed.
- Stowers, John Marcus**, M.A., M.B., B.Ch. (Cantab.), M.R.C.P. (Lond.). British. 27, Coolhurst Road, N. 8. Assistant, Medical Unit, University College Hospital, Gower Street, W.C. 1. *Signed by* : Charles E. Dent, S. W. Collins, R. Eryl Williams.

- \***Wall, Robert Graham**. British. White Ness, Dowhills Drive, Blundellsands, Liverpool, 23. Honours Chemistry Student, Oxford University. *Signed by* : Ronald P. Bell, Hubert H. Chambers, D. Ll. Hammick.
- Ward, Edwin George**, 30 years laboratory experience in the City of London engaged in analysis and research in agricultural, food and industrial chemistry. Articles of apprenticeship with M. S. Salmon, B.Sc., 1915/1917. Served in R.N.A.S. as chemist, 1917/1919. British. 18, Elmstead Avenue, Wembley. Serving Officer (Captain). 4½ years Inspector of Messing By-Products, Western Command H.Q. *Signed by* : Osman Jones, A. C. Davall, W. M. Seaber.
- \***Woods, John Colin**, M.Sc. (Manc.). British. 15, Whitmore Road, Fallowfield, Manchester, 14. Research Student at Manchester University. *Signed by* : F. S. Spring, A. E. Gillam, E. L. Hirst.

#### UNDER SPECIAL PROVISION APPERTAINING TO CANDIDATES RESIDENT ABROAD.

- ‡**Avasare, Mahades Dattatraya**, B.A., M.Sc. (Bombay), Ph.D. (Lond.); Member, Industries Board, Baroda State; Chairman, Chemical Sub-Committee, Industries Board; Member, Advisory Board, Kalabhavan Technical Institute; Fellow, Indian Chemical Society; Post-graduate University Teacher, University of Bombay. Indian. Science Institute, Baroda College, Baroda. Professor of Chemistry and Head of the Department of Chemistry. *Signed by* : M. M. Parekh.
- Gillespie, Donald Tom Chalton**, M.Sc. (Adelaide), A.A.C.I., F.I.I.M. British. 22a, Sydare Avenue, East Malvern, S.E. 10, Victoria. Research Officer, Council for Scientific and Industrial Research. *Signed by* : A. Killen Macbeth, Frank L. Winzor.
- ‡**Nassim, Gertrude Labib**, M.Sc. (Fouad I University). Egyptian Colour and Chemical Factory, Abbassia, Cairo. Chemist and Geologist at the Egyptian Colour and Chemical Factory. Research student at Fouad I University for the Degree of Ph.D. *Signed by* : Wadie Tadros.

• Reduced annual subscription.

† Three-body.

(a) Junior Membership two-body.

‡ Two-body.

(b) Junior Membership three-body.

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#### PAPERS RECEIVED.

List of papers received between July 31st and August 20th, 1945. (This list does not include the titles of papers which have been read at a Scientific Meeting or which have appeared in the *Journal*.)

- "Asymmetric transformations with benzylmalonanilic acids." By EDNA M. DAVIDSON and E. E. TURNER.
- "Absorption spectra of acridines. Part III. The hydroxyacridines." By A. Albert and L. N. Short.
- "Experiments on the interaction of hydroxy-compounds and phosphorus and thionyl halides in the absence and in the presence of tertiary bases. Part III." By W. GERRARD.
- "Experiments on the interaction of hydroxy-compounds and phosphorus and thionyl halides in the absence and in the presence of tertiary bases. Part IV." By W. GERRARD and M. J. RICHMOND.
- "The comparative reactivity of the carbonyl groups in the thionaphthenquinones. Part II. The influence of substituent groups in the thionaphthenquinones." By C. E. DALGLIESH and F. G. MANN.
- "The comparative reactivity of the carbonyl groups in the thionaphthenquinones. Part III. The influence of solvents and catalysts." By C. E. DALGLIESH and F. G. MANN.
- "The comparative reactivity of the carbonyl groups in the thionaphthenquinones. Part IV. The action of chloramine-T on the thionaphthenquinones." By C. E. DALGLIESH and F. G. MANN.
- "Some derivatives of 3-amino-quinoline." By G. R. CLEMO and G. A. SWAN.
- "Geometrically isomeric piperazine derivatives containing two quaternary nitrogen atoms." By W. E. HANBY and H. N. RYDON.
- "The application of the method of molecular rotation differences to steroids. Part I. Naturally occurring sterols and their simple derivatives." By D. H. R. BARTON.
- "Esters containing phosphorus. Part II." By H. G. COOK, H. MCCOMBIE, and B. C. SAUNDERS.
- "Carbohydrate phosphoric esters. Part I. The alkaline hydrolysis of  $\alpha$ -methylglucopyranoside-6-phosphate, methylglucofuranoside-3-phosphates and *iso*-propylidene glucofuranose-3- and -6-phosphates." By E. E. PERCIVAL and E. G. V. PERCIVAL.



THE CHEMICAL SOCIETY  
NOTICE OF FORTHCOMING SCIENTIFIC MEETINGS

IN LONDON (Burlington House).

Thursday, November 1st, 1945, at 5 p.m.

The following papers will be read and discussed :

" Mesohydric tautomerism." By L. Hunter.

" The sorption of condensable vapours by porous solids. Part III. Multimolecular adsorption. Part IV. Linear isothermals and the Langmuir equation." By A. G. Foster.

" Retention of asymmetry during the Beckmann, Lossen and Curtius changes." By A. Campbell and J. Kenyon.\*

Thursday, December 6th, 1945, at 5 p.m.

Meeting for the reading of original papers. (Further particulars will be announced.)

OUTSIDE LONDON.

EDINBURGH.

Tuesday, November 27th, 1945, at 7 p.m.

Lecture, **The Structure and Chemistry of Metallic Crystals**, by Professor G. D. Preston, M.A., Sc.D., F.Inst.P.

Joint meeting with the University Chemical Society and the local sections of the Royal Institute of Chemistry and the Society of Chemical Industry to be held in the Biochemical Lecture Theatre of the University, Teviot Place.

GLASGOW.

Friday, October 26th, 1945, at 3.30 p.m.

Lecture, **Long-Chain Molecules**, by Sir Robert H. Pickard, D.Sc., F.R.S.

Joint meeting with the Glasgow University Alchemists' Club and the Andersonian Chemical Society. To be held in the Large Lecture Theatre of the Chemistry Department, The University.

Friday, November 16th, 1945, at 7.15 p.m.

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

To be held in the Royal Technical College.

LEEDS.

Monday, November 26th, 1945, at 6.30 p.m.

Tilden Lecture, **Substitution**, by Professor E. D. Hughes, D.Sc., F.R.I.C.

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

LIVERPOOL.

Thursday, November 15th, 1945, at 4 p.m.

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

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

MANCHESTER.

Monday, October 29th, 1945, at 7 p.m.

Lecture, **The Publications of the Three Chartered Bodies**, by Mr. F. P. Dunn, B.Sc., F.R.I.C.

Joint meeting with the Royal Institute of Chemistry and Society of Chemical Industry to be held in the Engineers' Club, Albert Square.

\* To read paper.

Friday, November 16th, 1945, at 6 p.m.

Meeting for the reading of original papers.

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

Friday, December 7th, 1945, at 6 p.m.

Lecture by Professor J. M. Robertson, M.A., D.Sc., F.R.S.

Joint meeting with the local section of the Royal Institute of Chemistry, to be held in the Chemistry Lecture Theatre of the University. (Further details to be announced later.)

#### NORTH WALES.

Thursday, November 22nd, 1945, at 5.30 p.m.

Lecture, **Colchicine : its Chemistry and some Biological Effects**, by Professor J. W. Cook, D.Sc., F.R.S.

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

#### NOTTINGHAM.

Friday, November 2nd, 1945, at 7 p.m.

Lecture, **Some Problems in the Chemistry of the Polysaccharides**, by Professor E. L. Hirst, M.A., D.Sc., F.R.S.

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

Thursday, November 29th, 1945, at 4 p.m.

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

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

#### SHEFFIELD.

Friday, October 26th, 1945, at 6 p.m.

Lecture, **Flame**, by Professor D. T. A. Townend, D.Sc.

Joint meeting with the South Yorkshire Section of the Royal Institute of Chemistry, to be held in the Chemistry Lecture Theatre of the University.

Friday, November 16th, 1945, at 5.30 p.m.

Lecture, **Our War Against Insect Pests**, by Professor I. M. Heilbron, D.S.O., D.Sc., F.R.S.

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

#### SOUTH WALES.

Monday, October 29th, 1945, at 6 p.m.

Lecture, **The Separation of Isotopes and Thermal Diffusion**, by Professor J. Kendall, D.Sc., F.R.S.

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

Wednesday, November 7th, 1945.

Lecture, **Research on Coal Tar**, by E. H. Coulson, M.A., D.Phil., M.Sc., and J. L. Jones, M.Sc., F.R.I.C., of the Chemical Research Laboratory, Department of Scientific and Industrial Research.

Joint meeting with the local sections of the Royal Institute of Chemistry and the Society of Chemical Industry, to be held at the Newport Technical College.

Friday, November 23rd, 1945, at 6.30 p.m.

Lecture, **Colchicine : its Chemistry and Some Biological Effects**, by Professor J. W. Cook, D.Sc., F.R.S.

Joint meeting with the local sections of the Royal Institute of Chemistry and the Society of Chemical Industry. To be held at University College, Cardiff.

# PROCEEDINGS

OF THE

## CHEMICAL SOCIETY.

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### OFFICIAL ANNOUNCEMENTS

#### DEATHS.

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

	Elected.	Died.
Alfred George Ernest Foster .....	1912	July 26th, 1945.
Frederick William Freeman .....	1887	September 14th, 1941.
John Thomas Phillips .....	1932	August 4th, 1945.

#### ACKNOWLEDGMENTS.

The thanks of the Council have been conveyed to Colonel R. B. Turbutt for a gift of £1 10s. and to Mr. T. McLachlan for a gift of £2, under Deed of Covenant, to the Publications Fund. Thanks were also conveyed to Genatosan, Limited, for a gift of £25, under Deed of Covenant, to the Library Fund.

#### LIBRARY.

The hours of opening of the Library are now as follows :

Monday to Friday, from 10 a.m. to 9 p.m.  
Saturday, from 10 a.m. to 5 p.m.

#### RESEARCH FUND.

A meeting of the Research Fund Committee will be held in November next. All persons, therefore, who have received grants, and whose accounts have not been declared closed by the Council, are informed that reports must be received by the Society not later than November 1st, 1945.

Applications for Grants, to be made on forms obtainable from the General Secretary, must be received on or before November 1st, 1945. Applications from Fellows will receive prior consideration.

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

#### LOCAL REPRESENTATIVE FOR EIRE.

Professor T. S. Wheeler, Department of Chemistry, University College, Upper Merrion Street, Dublin, has accepted the invitation of the Council to act as Local Representative for Eire.

#### CONJOINT CHEMICAL OFFICE.

The address of the Conjoint Chemical Office has been changed from 6, Burlington Gardens, London, W. 1, to 9/10, Savile Row, London, W. 1. (Telephone No. REGent 2714.)

#### FELLOWSHIP.

The following 64 candidates have been elected Fellows of the Society :

Henry Ansbacher.	John Haslam.	Edward Henry Reynolds.
Mahades Dattatraya Avasare.	William Arnold Hewson.	Terence Anthony Rohan.
Heinz Carl Barany.	Richard Staples Higginbotham.	Alan Trevor Royle.
Desmond Arthur Sidney Barnes.	Willard Max Hoehn.	Arthur Rushton.
Frederick William Bernhardt.	Peter John Jackson.	John Dee Shapland.
Gordon Beswick.	Norman William Krase.	Julian Ross Smith.
Hugh Christiaan Beyerman.	Desmond Leighton.	Thomas Arthur Soames.
David Elliott Butterfield.	Keith Frank Astell Linton.	Derrick John Stevens.
Ng. Ph. Buu-Hoi.	Thomas Reginald Peter Maynard.	Harry Verdon Stopes-Roe.
Frank Clark.	Alexander Bernard Meggy.	John Marcus Stowers.
Russell Neville Coleman.	George Mooney.	Helan Vivien Taylor.
George Charles Corbett.	George Alfred Morrison.	Leo Harvey Thomas.
Alfred Eric Corker.	Gertrude Labib Nassim.	Aubrey Fiennes Trotman-Dickenson.
Raymond Wilson Durham.	James Ritchie Park.	Thomas Truesdale.
Donald Trevor Elmore.	John Arthur Pegg.	Alfred Leonard Walby.
Arthur Andrew Valentine Featherstone.	Harold Arthur Dickins Perry.	Robert Graham Wall.
Hewitt Grenville Fletcher.	Edward Bertram Pinniger.	Edwin George Ward.
William Atkinson Forster.	Margaret Povah.	Ernest Eric White.
Donald Tom Chalton Gillespie.	Gwyneth Audrey Powell.	Gareth Howel Williams.
Mino Green.	Eleanor Mary Pridgeon.	Paul Hesbo Winsnes.
Cyril Henry Greenstreet.	Anthony John Richard Pursell.	John Colin Woods.
	George de Rome Rack.	

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## NOTICE

## 50th ANNIVERSARY CELEBRATIONS OF THE DISCOVERY OF X RAYS

## Preliminary Announcement

The Chemical Society is participating in the celebrations to commemorate the 50th anniversary of the discovery of X rays by Wilhelm Conrad Röntgen on November 8th, 1895.

These celebrations will take the form of a series of meetings to be held between November 8th and 10th of this year. The following is an outline of the programme being arranged; full details will be announced later :—

Thursday, November 8th.

Inaugural meetings at The Royal Society and Royal Society of Medicine.

Friday, November 9th.

Medical meetings at Royal Society of Medicine and Institution of Electrical Engineers.

At 4.0 p.m. Joint meeting of all Participating Societies.

Address, **The Scientific Consequences of Röntgen's Discovery of X Rays**, by Sir Lawrence Bragg, O.B.E., F.R.S.

Chairman : Sir Henry Dale, O.M., P.R.S.

Friday and Saturday, November 9th and 10th.

Scientific Meetings at the Royal Institution on **Applications of X Rays to Physics and Chemistry.**

Saturday, November 10th.

Historical Review meetings at the Institution of Electrical Engineers.

## LIST OF APPLICATIONS FOR FELLOWSHIP

(*Fellows wishing to lodge objections to the election of these candidates should communicate with the Honorary Secretaries within ten days of the date of publication of the Journal for September, 1945. Such objections will be treated as confidential. The forms of application are displayed in the Library.*)

- \***Dempster, John.** British. 24, Highburgh Drive, Burnside, Lanarkshire. 3rd Year Applied Chemistry Student, Royal Technical College, Glasgow. *Signed by* : A. B. Crawford, M. M. J. Sutherland, W. M. Cumming.
- \***Donovan, Bernard Thomas.** London University Matriculation. British. 82, Furley Road, Peckham, S.E. 15. Laboratory Assistant, Wellcome Laboratories of Tropical Medicine, Chemical Department, 183, Euston Road, N.W. 1. *Signed by* : W. H. Gray, K. S. Kirby, W. Solomon.
- Dudley, Francis Barnett,** B.Sc. (Melbourne). British. New England University College, Armidale, N.S.W., Australia. Lecturer in Chemistry at New England University College. *Signed by* : J. S. Anderson, E. J. Hartung, E. Heymann.
- (b)**Fore, Harold,** B.Sc.Hons. (L'pool), A.R.I.C. British. 12, Ravenswood Avenue, Rock Ferry. Research Chemist. *Signed by* : C. N. Thompson, R. Brian Bentley, H. C. Evans.
- \***Foxon, Gordon Howard,** B.Sc.Hons. (Lond.). British. c/o 27, Park Road, Stockton-on-Tees. Research Chemist, Imperial Chemical Industries, Ltd., Billingham Division, Billingham, Co. Durham. *Signed by* : M. P. Applebey, J. W. Donaldson, E. Kenefec.
- †**Hall, Norah,** B.Sc. (Dun.), N.D.D. British. Laboratory Department, Tyne Brand Products, North Shields. Works Chemist. *Signed by* : P. L. Robinson, Wesley Cocker, H. L. Riley.
- (a)**Hunter, Robert Theodore.** British. 11, Kingsgate Terrace, Hexham, Northumberland. Student. *Signed by* : Richard Raper, Wesley Cocker, G. A. Swan.
- †**Lovering, Philip Edward,** B.Sc. (Lond.), A.R.I.C. British. 45, Christchurch Road, Streatham, S.W. 2. Research Chemist. *Signed by* : C. H. R. Gentry, D. F. Rushman, M. L. Smith.
- \***Dugowan, John Main.** British. Morrision Farm, Cambuslang, Glasgow. Applied Chemistry Student, Royal Technical College, Glasgow. *Signed by* : A. B. Crawford, W. M. Cumming, M. M. J. Sutherland.
- \***Mackie, Margaret McCowan Stewart.** British. c/o Stewart, 25, Steven Street, Glasgow, C. 4. Applied Chemistry Student, Royal Technical College, Glasgow. *Signed by* : A. B. Crawford, W. M. Cumming, M. M. J. Sutherland.
- Mulholland, Thomas Patrick Cunningham,** M.Sc. (Manc.). British. Bowfield, Gee Cross, Hyde. Research Student, Manchester University. *Signed by* : F. S. Spring, T. H. H. Quibell, A. E. Gillam.
- Paterson, John Young Fraser.** British. 1, Barony Place, Edinburgh, 3. Student, Department of Chemistry, Edinburgh University. *Signed by* : E. G. V. Percival, Neil Campbell, J. A. V. Butler.



- Popper, Felix**, B.Sc.Hons. (Lond.). Austrian. 2, Clarendon Crescent, Eccles, Manchester. Chemist, Manchester Oil Refinery, Ltd. *Signed by* : H. S. Boyd-Barrett, D. Parker, Isaac Goodman.
- † **Rankin, Irvine Giles**, B.Sc.Hons. (Lond.), Ph.C., A.R.I.C., D.B.A. British. 39, Bramley Road, N. Kensington, W. 10. Principal (retiring September, 1945), London College of Pharmacy, 361, Clapham Road, S.W. 9. *Signed by* : Herbert E. Blayden, H. L. Riley, H. Humphreys Jones.
- † **Ransom, James Charles Cyril**, B.Sc.Hons. (Leeds), A.R.I.C. British. c/o Brotherton's Chemical Works, Cattells Grove, Nechells, Birmingham, 7. Sulphuric Acid Plant Superintendent and Research Worker. *Signed by* : H. J. Hodsman, H. Burton, G. McLeavy.
- (b) **Seavall, Albert John**, B.Sc. (L'pool). British. Thorncroft Bungalow, Mill Lane, Willaston, Wirral. Chemist, Tate and Lyle, Ltd. *Signed by* : A. McGookin, H. M. Thompson, D. B. Taylor.
- Stephenson, Oliver**, B.Sc.Hons. and Ph.D. (Dun.). British. 444, Devizes Road, Salisbury. Research Chemist. *Signed by* : W. A. Waters, G. H. Christie, C. W. Gibby.
- Watson, Guy Harold Ralph**. Work has been completed for Hons. B.A. (Cantab.) which will be taken next June (Natural Science Tripos Part II, Class II, 1945). British. Memorial Court, Clare College, Cambridge. Research Student in Organic Chemistry at the University Chemical Laboratory, Cambridge. *Signed by* : B. C. Saunders, F. L. M. Pattison, N. B. Chapman.
- † **Weeks, Geoffrey Albert**, B.A., B.Sc. (Oxon), A.R.I.C. British. Fir Croft, Combs Road, Chapel-en-le-Frith, Stockport. Research Chemist, Ferodo, Ltd., Chapel-en-le-Frith, Stockport. *Signed by* : S. G. P. Plant, J. C. Smith, A. F. Childs.
- † **Williams, Edward Arthur**, B.Sc. (Birm.), A.R.I.C. British. 7, Millfield Road, North Walsham, Norfolk. Chemist, Norfolk Canneries, Ltd., North Walsham, Norfolk. *Signed by* : R. H. Hopkins, Alfred D. Norris, Denis Dickinson.

#### UNDER SPECIAL PROVISION APPERTAINING TO CANDIDATES RESIDENT ABROAD.

- Kapur, Narinder Singh**, B.Sc., Final Year Student B.Sc.Hons. Chemistry. Indian. R. B. Narshing Dass Street, Near Kucha Peshawarian, Sutar Mandi, Lahore, India. Student, Punjab University Institute of Chemistry, Lahore. *Signed by* : S. S. Bhatnagar.
- Mills, John Archer**, M.Sc. (Adelaide), five years' post-graduate research in Organic Chemistry. British. 6, Albert Street, Hyde Park, S. Australia. Research Assistant in Chemistry Department, University of Adelaide. *Signed by* : A. Killen Macbeth, Frank L. Winzor.
- (a) **Mosby, William Lindsay**, B.Sc. (Harvard), 1-2 years various types research. American. 2209, Clinton Place, Rockford, Illinois, U.S.A. Chemical Warfare Service, A.U.S. *Signed by* : R. P. Linstead.

- \* Reduced annual subscription
- † Three-body.
- ‡ Two-body.

- (a) Junior Membership two-body.
- (b) Junior Membership three-body.

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#### PAPERS RECEIVED

List of papers received between August 21st and September 14th, 1945. (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 heterogeneous acid and acid-salt hydrolysis of secondary cellulose acetate." By R. N. HAWARD and T. WHITE.
- "Observations on the purification and resolution of *rac*-adrenaline." By S. PICKHOLZ.
- "The synthesis of cardiazole (pentamethylenetetrazole) by the action of hydrazoic acid on cyclohexanone." By N. B. CHAPMAN, H. MCCOMBIE, and B. C. SAUNDERS.
- "The enzymic synthesis and degradation of starch. Part I. The synthesis of amylopectin." By E. J. BOURNE and S. PEAT.
- "The enzymic synthesis and degradation of starch. Part II. The amylolytic function of the Q-enzyme of the potato." By E. J. BOURNE, A. MACEY, and S. PEAT.
- "Some pyridine and quinoline derivatives." By V. A. PETROW.
- "Reactions of thermochromic ethylenes." By A. SCHÖNBERG, A. F. A. ISMAIL, and (in part) (MISS) W. ASKER.
- "Electrometric titrations of weak acids and bases in aqueous solution." By D. O. JORDAN and H. F. W. TAYLOR.
- "Mechanism of substitution at a saturated carbon atom. Part XXVI. The relationship of reactivity to mechanism in the reactions of neopentyl and other alkyl compounds. (Section A) Introductory remarks and a kinetic study of the reactions of methyl, ethyl, *n*-propyl, *isobutyl*, and neopentyl bromides with sodium ethoxide in dry ethyl alcohol." By I. DOSTROVSKY and E. D. HUGHES.
- "Mechanism of substitution at a saturated carbon atom. Part XXVII. The relationship of reactivity to mechanism in the reactions of neopentyl and other alkyl compounds. (Section B) A comparison of the rates of reaction of ethyl and neopentyl bromides with inorganic iodides in acetone solution." By I. DOSTROVSKY and E. D. HUGHES.

- " Mechanism of substitution at a saturated carbon atom. Part XXVIII. The relationship of reactivity to mechanism in the reactions of neopentyl and other alkyl compounds. (Section C) A comparison of the rates of reaction of methyl, ethyl, *n*-propyl, *isobutyl*, and neopentyl bromides with aqueous ethyl alcohol." By I. DOSTROVSKY and E. D. HUGHES.
- " Mechanism of substitution at a saturated carbon atom. Part XXIX. The relationship of reactivity to mechanism in the reactions of neopentyl and other alkyl compounds. (Section D) The mechanism of the reaction of neopentyl bromide with aqueous ethyl alcohol." By I. DOSTROVSKY and E. D. HUGHES.
- " Mechanism of substitution at a saturated carbon atom. Part XXX. The relationship of reactivity to mechanism in the reactions of neopentyl and other alkyl compounds. (Section E) A comparison of the rates of reaction of methyl, ethyl, *n*-propyl, *isobutyl*, and neopentyl halides with silver nitrate in aqueous ethyl alcohol." By I. DOSTROVSKY and E. D. HUGHES.
- " Mechanism of substitution at a saturated carbon atom. Part XXXI. The relationship of reactivity to mechanism in the reactions of neopentyl and other alkyl compounds. (Section F) A comparison of the rates of reaction of methyl, ethyl, *n*-propyl, and neopentyl bromides with wet formic acid." By I. DOSTROVSKY and E. D. HUGHES.
- " Mechanism of substitution at a saturated carbon atom. Part XXXII. The relationship of reactivity to mechanism in the reactions of neopentyl and other alkyl compounds. (Section G) Steric hindrance in nucleophilic substitution. The Wagner rearrangement in relation to unimolecular substitution and elimination." By I. DOSTROVSKY, E. D. HUGHES, and C. K. INGOLD.
- " Retention of asymmetry during the Beckmann, Lossen, and Curtius changes." By A. CAMPBELL and J. KENYON.
- " Some pyridyl analogues of triphenylmethane." By H. J. KAHN and V. A. PETROW. With a Note by R. WIEN and J. HARRISON.
- " The kinetics of halogen addition to unsaturated compounds. Part VIII.  $\alpha\beta$  Unsaturated aldehydes." By P. B. D. DE LA MARE and P. W. ROBERTSON.
- " The kinetics of halogen addition to unsaturated compounds. Part IX. Nitrocinnamic acids." By I. HARTMAN and P. W. ROBERTSON.
- " Esters containing phosphorus. Part III. Dialkyl iodophosphates." By H. McCOMBIE, B. C. SAUNDERS, and G. J. STACEY.
- " Acridine syntheses and reactions. Part III. The dechlorination of 5-chloroacridines. A new synthesis of acridine." By A. ALBERT and J. B. WILLIS.
- " Experiments in the piperidine series. Part II." By R. M. ANKER, A. H. COOK, and I. M. HEILBRON.
- " Some aryl bis- $\beta$ -amidinoethyl ethers." By A. H. COOK and K. J. REED.
- " Some sulphanilamidobenzonitriles and related compounds." By A. H. COOK, I. M. HEILBRON, K. J. REED, and M. N. STRACHAN.
- " Rare-earth metal oxides. Part I. The direct oxidation of praseodymium and terbium sesquioxides." By J. K. MARSH.
- " Rare-earth metal oxides. Part II. A new study of oxide precipitation by nitrate fusion." By J. K. MARSH.
- " Rare-earth metal oxides. Part III. Their precipitation from potassium hydroxide melts." By J. K. MARSH.
- " The molecular volumes and parachors of the mercuric halides. Part II. Mercuric iodide, internal pressures and other relations." By E. B. R. PRIDEAUX and J. R. JARRATT.
- " Preparation of carbamyl fluorides by the action of anhydrous hydrogen fluoride on *isocyanates*." By G. D. BUCKLEY, H. A. PIGGOTT, and A. J. E. WELCH.

# THE CHEMICAL SOCIETY

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## NOTICE OF FORTHCOMING SCIENTIFIC MEETINGS

### LONDON (*Burlington House*).

Thursday, December 6th, 1945, at 5 p.m.

The following papers will be read and discussed :

"The constitution of *pseudo*-santonin. Part I." By G. R. Clemo and Wesley Cocker.

"The constitution of *pseudo*-santonin. Part II. The preparation of certain dimethyl naphthols." By Wesley Cocker.

"Experiments in the piperidine series. Part I." By A. H. Cook \* and K. J. Reed.

"Part II." By R. M. Anker, A. H. Cook,\* and I. M. Heilbron.

"Part III." By R. M. Anker and A. H. Cook.\*

"Structure of compounds of ferrocyanide type. Part I. Crystal structure of hexamethylisonitrilo ferrous chloride." By H. M. Powell \* and G. W. R. Bartindale.

### EDINBURGH.

Tuesday, November 27th, 1945, at 7 p.m.

Lecture, **The Structure and Chemistry of Metallic Crystals**, by Professor G. D. Preston, M.A., Sc.D., F.Inst.P.

Joint meeting with the University Chemical Society and the local sections of the Royal Institute of Chemistry and the Society of Chemical Industry to be held in the Biochemical Lecture Theatre of the University, Teviot Place.

### EXETER.

Friday, November 30th, 1945, at 4.30 p.m.

Lecture, **The Physical Chemistry of Powders and Fine Structured Solids**, by D. H. Bangham, M.C., M.A., D.Sc.

To be held in the Washington Singer Laboratories, Prince of Wales Road, Exeter.

### GLASGOW.

Friday, November 16th, 1945, at 7.15 p.m.

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

To be held in the Royal Technical College.

### LEEDS.

Monday, November 26th, 1945, at 6.30 p.m.

Tilden Lecture, **Substitution**, by Professor E. D. Hughes, D.Sc., F.R.I.C.

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

### LIVERPOOL.

Thursday, November 15th, 1945, at 5 p.m.

Lecture, **The Structure of the Boron Hydrides and Related Compounds**, by R. P. Bell, M.A., F.R.S.

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

**MANCHESTER.**

Friday, November 16th, 1945, at 6 p.m.

Meeting for the reading of the following papers :

“ The heats of polymerisation of acrylic acid, methacrylic acid, and methyl methacrylate.” By A. G. Evans and E. Tyrrol.

“ Some reactions in the sulphanilamide series: (a) Guanidine derivatives.” By S. Birtwell, E. Haworth, S. L. Rose, G. Swain, and C. H. Vasey. (b) “ Pyrimidine derivatives.” By S. L. Rose and G. Swain.

“ New methods for end-group determination in polysaccharides.” By F. Brown, Miss S. Dunstan, T. G. Halsall, E. L. Hirst, and J. K. N. Jones.

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

Friday, December 7th, 1945, at 6 p.m.

Lecture, **The Principles of Crystal Analysis**, by Professor J. M. Robertson, M.A., D.Sc., F.R.S.

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

**NORTH WALES.**

Thursday, November 22nd, 1945, at 5.30 p.m.

Lecture, **Colchicine : its Chemistry and Some Biological Effects**, by Professor J. W. Cook, D.Sc., F.R.S.

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

**NOTTINGHAM.**

Thursday, November 29th, 1945, at 4 p.m.

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

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

**SHEFFIELD.**

Friday, November 16th, 1945, at 5.30 p.m.

Lecture, **Our War Against Insect Pests**, by Professor I. M. Heilbron, D.S.O., D.Sc., F.R.S.

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

**SOUTH WALES.**

Wednesday, November 7th, 1945.

Lecture, **Research on Coal Tar**, by E. H. Coulson, M.A., D.Phil., M.Sc., and J. L. Jones, M.Sc., F.R.I.C., of the Chemical Research Laboratory, Department of Scientific and Industrial Research.

Joint meeting with the local sections of the Royal Institute of Chemistry and the Society of Chemical Industry, to be held at the Newport Technical College.

Friday, November 23rd, 1945, at 6.30 p.m.

Lecture, **Colchicine : its Chemistry and Some Biological Effects**, by Professor J. W. Cook, D.Sc., F.R.S.

Joint meeting with the local sections of the Royal Institute of Chemistry and the Society of Chemical Industry. To be held at University College, Cardiff.

# PROCEEDINGS

OF THE

## CHEMICAL SOCIETY.

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### Minutes of a SCIENTIFIC MEETING

held at Burlington House, Piccadilly, W. 1, on Thursday, October 4th, 1945, at 5 p.m.

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

#### MINUTES.

The Minutes of the Annual General Meeting held on April 19th and of the Scientific Meeting held on May 17th were taken as read and were signed.

#### DR. CLARENCE SMITH.

The Meeting stood whilst the President read the following resolution :

“ The Council have learned with profound regret of the death on June 28th of Dr. Clarence Smith, Editor of the Society's *Journal* since January, 1924. He was appointed Assistant Editor to the Society in 1921 and Joint Editor in 1923.

Dr. Clarence Smith had a wide knowledge of Chemistry and he was a master of literary English. These gifts he placed freely at the disposal of the Society to our great benefit, and in doing so he maintained the high standard of our publications. Dr. Smith gained a world-wide reputation by reason of his expert knowledge of nomenclature, and this has been of inestimable value not only to the Society, but to the whole of the science of Chemistry.

Dr. Smith's death will be keenly lamented by the Fellows of the Society and especially so by those who have contributed during the past 24 years to its publications.

The Council desire to place on record their high appreciation of the great services Dr. Smith has rendered to the Society during his period of office, and they send their deep sympathy to his son and daughter in their bereavement.”

#### FORMAL ADMISSION OF FELLOWS.

The following were admitted Fellows of the Chemical Society : A. J. Turnbull, H. Gomberg, Miss G. M. Owen, C. F. Buckley, H. V. Stopes-Roe, M. Green, H. Robinson, R. J. Loneragan, A. E. Judd, W. J. Wyse, F. W. Bernhardt, A. L. Beattie, Miss J. M. Currington, J. E. McKail, G. V. Riberstein, W. Clamp, D. D. Lord, P. J. Pengilly, A. Gellman, P. F. Timson.

#### LECTURE.

After a brief introduction the President called on Dr. U. R. Evans to deliver his Lecture entitled “ Recent Work on Corrosion and Oxidation Reactions.”

At the conclusion of the Lecture, a vote of thanks to the Lecturer, proposed by Dr. W. H. J. Vernon, was carried with acclamation.

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### OFFICIAL ANNOUNCEMENTS

#### DEATHS.

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

	Elected.	Died.
Harold Joseph Clarke Mathews (Burnley) .....	Dec. 1st, 1904.	Sept. 9th, 1945.
Sir David Milne Watson (Dorset) .....	June 4th, 1931.	Oct. 3rd, 1945.
Laurence Christopher Panting (Truro) .....	May 4th, 1889.	May 4th, 1945.
Professor Robert Wallace (Fife) .....	June 4th, 1885.	Jan., 1939.

**PRESENTATION TO MR. S. E. CARR.**

It has been suggested that many Fellows of the Society would welcome an opportunity of contributing to a presentation to Mr. S. E. Carr on his retirement from the office of General Secretary after forty-two years of service. The Council decided to invite contributions of not more than ten shillings from Fellows and friends. The nature and date of the presentation will be decided at a later date and notified to contributors.

Contributions should be sent, not later than January 31st, 1946, to Dr. D. C. Martin, General Secretary, at Burlington House, W. 1. Fellows desirous of paying through a bank should cross cheques "S. E. Carr Fund."

**ACKNOWLEDGMENTS.**

The thanks of the Council have been conveyed to the Association of British Chemical Manufacturers for a gift of £100 under Deed of Covenant, and to Major D. T. Coomber, Dr. S. W. Smith, and Mr. L. S. Theobald for gifts of publications.

**ANNUAL REPORTS.**

The Council of the Society has decided to change the policy in respect of the *Annual Reports on the Progress of Chemistry*.

It is proposed that, commencing in 1947, a series of reports will be issued in quarterly numbers of approximately 120 pages and in a format similar to that of the *Journal*. The character of the reports will be such as to include :

(1) General reviews of selected topics, the selections to be in accordance with an approved pre-arranged list covering a period of years.

(2) Once annually, a brief general review of the progress of the main branches of chemistry during the year.

(3) Reviews submitted spontaneously by authors. It is intended that these will be submitted either as finished articles or preferably as projects which the Publication Committee may encourage, or in special cases may accept in advance. In this way, it is hoped, that authors will be encouraged to put their best work into surveys of subjects which interest them and that their contributions will have value as original essays besides being surveys.

It is proposed that the *Annual Reports* should continue on the present basis to include 1946, so that in 1947 the *Annual Reports* for 1946 will appear together with the first series of the new quarterly reports bearing the date of the current year, thereby preserving continuity in the serial numbers.

**105TH ANNUAL GENERAL MEETING.**

The Council has agreed to a proposal to hold the 105th Annual General Meeting in Birmingham on April 25th, 1946.

**BUREAU OF ABSTRACTS.**

The address of the Bureau of Abstracts has been changed from 56 Victoria Street, S.W. 1, to 9/10 Savile Row, London, W. 1. (Telephone No. REGent 2714.)

**NATIONAL COMMITTEE FOR CHEMISTRY.**

The President and Professor I. M. Heilbron have agreed to serve as the Society's representatives on the National Committee for Chemistry of the Royal Society in place of Professor C. W. Davies and Mr. F. P. Dunn who are due to retire on December 31st, 1945.

**ASSOCIATION FRANCAISE POUR L'AVANCEMENT DES SCIENCES.**

Professor F. Joliot, an Honorary Fellow of the Society, represented the Society at the Congrès de la Victoire in Paris on October 20th to 26th, 1945.

**BRITISH STANDARD SPECIFICATIONS.**

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

CH(C) 1801 Third draft of British Standard Specification for Wash-out pipettes.

CH(C) 1880 Third draft for Part 3 of British Standard Specification for Burettes No. 846—1939.

These have been placed in the library and Fellows wishing to make technical comments on them are requested to do so before December 13th, 1945, to the British Standards Institution, 28 Victoria Street, Westminster, London, S. W. 1.

## NOTICE

## 50TH ANNIVERSARY CELEBRATIONS OF THE DISCOVERY OF X-RAYS

As already announced, the Chemical Society is participating in the celebrations to commemorate the 50th Anniversary of the discovery of X-rays by Wilhelm Conrad Röntgen on November 8th, 1895.

These celebrations will take the form of a series of meetings and a small exhibition of historical items of interest.

The following is an outline of the programme which has been arranged, details being given of those meetings which are likely to be of interest to Fellows of the Society. Full details of the complete programme of meetings are displayed on the Society's Notice Board and may be obtained by interested Fellows on request from the General Secretary.

Thursday, November 8th.

The Celebrations will begin by Inaugural meetings to be held at the Royal Society on Thursday, November 8th, at 11.30 a.m., and at the Royal Society of Medicine at 4.30 p.m. and 8 p.m. The Minister of Health, the Rt. Hon. Aneurin Bevan, M.P., will be the guest at the afternoon meeting at the Royal Society of Medicine when short addresses on medical aspects of X-rays will be delivered. Attendance at the meeting at the Royal Society and the evening meeting at the Royal Society of Medicine will be by invitation only.

Friday, November 9th.

A joint meeting of all the participating Societies will take place at 3.30 p.m. in the Phoenix Theatre, Charing Cross Road, W.C. 2, when Sir Henry Dale, O.M., P.R.S., will be the Chairman and Sir Lawrence Bragg, O.B.E., F.R.S., will deliver an address entitled **The Scientific Consequences of Röntgen's Discovery of X-Rays**. Further details will be announced in the technical press and elsewhere.

From 10 a.m. to 1 p.m. the first of two scientific meetings dealing with **The Application of X-rays to Physics and Chemistry** will be held at the Royal Institution under the Chairmanship of Professor P. P. Ewald, when the following papers will be given :

- (a) **The Development of X-ray Tubes.** S. Goldztaub, D.és.Sc. (Paris).
- (b) **Some Scientific Aspects of Radiography.** F. I. G. Rawlins, M.Sc.
- (c) **Application of X-ray Spectroscopy.** Mlle. Y. Cauchois, D.és.Sc. (Paris).
- (d) **Dynamic X-ray Theory.** M. Born, F.R.S.
- (e) **Amorphous Substances.** J. T. Randall, D.Sc.
- (f) **Fibrous Substances.** W. T. Astbury, Sc.D., F.R.S.

Meetings dealing with Medical X-ray Applications in Medicine will also be held at 10 a.m. and 11.30 a.m. at the Royal Society of Medicine.

Saturday, November 10th.

From 10 a.m. to 1 p.m. the second scientific meeting will be held at the Royal Institution under the Chairmanship of Sir Lawrence Bragg, O.B.E., F.R.S., when the following papers will be given :

- (a) **Metal Structures.** H. Lipson, D.Sc.
- (b) **Minerals.** W. H. Taylor, D.Sc.
- (c) **Crystal Chemistry.** A. F. Wells, Ph.D.
- (d) **X-rays and Geochemistry.** V. M. Goldschmidt, For.Mem.R.S.
- (e) **Organic Structures.** J. M. Robertson, D.Sc., F.R.S., and Mrs. D. Hodgkin, Ph.D.

At 2 p.m. there will be a Medical meeting at the Institution of Electrical Engineers and this will be followed by a short series of Historical Review meetings under the Chairmanship of P. Dunsheath, O.B.E., D.Sc., President of the Institute of Electrical Engineers as follows :

- 3.30—5 p.m. (a) **The Development of Electrical X-ray Equipment.** Clifford C. Paterson, O.B.E., D.Sc., F.R.S.
- (b) **The Evolution of X-ray Photographic Materials.** H. Baines, D.Sc.
- 5—6 p.m. Tea.
- 6—7.30 p.m. (c) **Industrial X-ray Analysis, Past and Present.** H. P. Rooksby.
- (d) **The Growth of Industrial Radiology.** W. J. Wiltshire.

There will be a small exhibition of historical items of interest in the Reid Knox Hall of the British Institute of Radiology, 32 Welbeck Street, London, W. 1, on the 8th, 9th, and 10th November, open from 10 a.m. to 6 p.m.

## LIST OF APPLICATIONS FOR FELLOWSHIP

(*Fellows wishing to lodge objections to the election of these candidates should communicate with the Honorary Secretaries before November 30th, 1945. Such objections will be treated as confidential. The forms of application are displayed in the Library.*)

- †**Albericci, Victor John**, M.Sc. (N.U.I.), A.R.I.C. Irish. Lewis Road, Killarney, Co. Kerry. Chemist in the State Laboratory, Dublin. *Signed by* : A. G. G. Leonard, T. S. Wheeler, Vincent C. Barry.
- †**Allen, Charles Dudley**, B.A.Hons. and B.Sc.Hons. British. c/o Grindley & Co., Bombay. Major R.I.A.S.C. Analytical Chemist. *Signed by* : Eric T. Murdock, H. J. T. Ellingham, Alex Findlay.
- Aspinal, Gerald Oliver**, B.Sc.Hons. (Bristol). British. 6, Hughenden Road, Clifton, Bristol, 8. Post-graduate research at the University of Bristol. *Signed by* : E. B. Maxted, W. Baker, T. Malkin.
- (a)**Bernstein, Peter John**, B.Sc.(Lond.). Hungarian. 10, Kenners Dene, Tynemouth. Works Chemist, in charge of production and research at the Tyne Chemical Co., Ltd., Pilot Street, South Shields. *Signed by* : Wesley Cocker, Richard Raper, G. A. Swan.
- †**Collie, William MacRoe**, B.Sc.Hons. (L'pool). British. 22, Hill Road, Claughton, Birkenhead. Chemist in soup department of J. Bibby and Sons, Ltd., Great Howard Street, Liverpool. *Signed by* : A. McGookin, R. O. Griffith, T. P. Hilditch.
- †**Colson, Albert Francis**, B.Sc.Hons. (Lond.), F.R.I.C. British. Tythebarn Farm, Mobberley, Knutsford. Chief microanalytical chemist, I.C.I. (Alkali Division), Winnington, Northwich. *Signed by* : J. Haslam, E. A. Cooke, J. Ferguson.
- †**Curtis, Albert Bertram**. London University Matriculation, 3 years biological research (Cambridge). British. 6, Ludgate Circus Buildings, E.C.4. Manufacturing, analytical, pharmaceuticals and cosmetics. *Signed by* : Robt. E. Goldsbrough, M. Briscoe, David J. Evans.
- †**Garvie, William Macgregor**, M.Sc.Tech. and Ph.D. (Manc.), A.R.I.C. British. 22, Haydon Road, Didcot, Berks. Chemist, Chemical Inspection Department, Ministry of Supply. *Signed by* : R. G. Monk, L. Airey, A. S. Nickelson.
- †**Graham, Joseph Ivon**, M.A. (Cantab.), M.Sc. (Lond.), F.R.I.C. British. Byfield, Maiden Erlegh Drive, Reading. Director, Mining Research Laboratory, British Colliery Owners Research Association, Royal School of Mines, South Kensington, S.W. 7. *Signed by* : R. Lessing, Wm. Wardlaw, J. G. King.
- †**Henderson, James Alexander**, Inter.B.Sc., A.R.I.C. British. 9, Wildwood Avenue, Mount Pleasant Lane, Bricket Wood, Watford. Organic Research Chemist, c/o Trinidad Leaseholds, Trinidad, B.W.I. *Signed by* : J. C. Crocker, F. H. Lowe, H. J. T. Ellingham.
- ‡**Hunter, Andrew**. British. Messrs. Wheta, Ltd., 1-7, Calvin Street, Belfast. Managing Director. *Signed by* : Leslie H. Lampitt, E. B. Hughes, F. P. Dunn.
- †**Kirkbride, Walter**, A.R.I.C. British. 24, Brownberrie Walk, Horsforth, nr. Leeds. Departmental Manager at Messrs. Wood and Bedford, Branch of the Yorkshire Dyeware & Chemical Co., Ltd. *Signed by* : Arnold T. Peters, of Ralph C. Storey, S. G. A. Wise.
- †**Kressman, Theodore Roger Ernest**, B.Sc. (Lond.), A.R.I.C. British. 15, Wellesley Road, Strawberry Hill, Middx. Chief Research Chemist Permutit Co., W. 4. *Signed by* : E. I. Akeroyd, H. J. T. Ellingham, R. Leslie Collett.
- \***Longuet-Higgins, Hugh Christopher**, B.A. (Oxon). British. Balliol College, Oxford. Research Student in Chemistry. *Signed by* : Ronald P. Bell, W. C. E. Higginson, L. W. Grimke Drayton.
- \***Malan, David Huntingford**, B.A. (Oxon). British. Parker's Close, Hartley Wintney. Research organic chemist for Courtaulds, Ltd. *Signed by* : R. C. G. Moggridge, C. H. Bamford, Harry Irving.
- (a)**Moss, Nathan**, B.Sc. (Lond.). British. 2, Glen Eyre Close, Bassett, Southampton. Research Chemist for Ministry of Supply, C.D.E.S., Porton. *Signed by* : S. H. Harper, Ishbel G. M. Campbell, N. K. Adam.
- †**Myles, Donald**, A.R.I.C. British. 59, Parrin Lane, Monton, nr. Manchester. Experimental Officer, Chemical Inspection Department, Ministry of Supply. *Signed by* : G. L. Wathen, J. Agnew, M. J. Thornton.
- Patek, John Charles**, B.A.Hons. (Cantab.). Czech. 24, Gt. King Street, Edinburgh, 3. Analytical Chemist in the Laboratories of Messrs. Torbet Lactic Oat Co., Ltd., Gt. King Street, Edinburgh, 3. *Signed by* : E. G. V. Percival, Eric T. Dewar, T. R. Bolam.
- \***Scurfield, Gordon**, B.Sc.Hons. (Sheffield). British. 19, Springwell Terrace, Hetton-le-Hole, Co. Durham. Assistant Plant Physiologist, Hosa Cancer Research Laboratories. *Signed by* : Brynmor Jones, R. D. Haworth, E. Gertrude Turner.
- Sholl, Donald Arthur**, B.Sc. (Lond.). British. City of London Freeman's School, Ashtead Park, Surrey. Senior Science Master. *Signed by* : Thomas Turner, W. G. Aston, Eric S. Gyngell.
- Sos, Feodora Lea**, Ph.D. (Budapest). Teaching diploma. Hungarian, 3, Upton Park, Slough. Research Chemist, Messrs. Smith and Shaw, 11, Cavendish Place, W. 1. *Signed by* : H. G. Emblem, J. E. Hackford, Denis E. B. Greensmith.
- (a)**Taylor, Alan Scott**. British. 34, Bedford Terrace, Billingham. Final Honours Chemistry Student, King's College, Newcastle-on-Tyne. *Signed by* : Richard Raper, Joseph Weiss, G. R. Clemo.
- ‡**Watson, Cyril James**, B.S.A. (McGill), M.S. and Ph.D. (Cornell). British. Division of Chemistry, Department of Agriculture, Central Experimental Farm, Ottawa, Ont. Chemist, Dominion Experimental Farm, Department of Agriculture, Ottawa. *Signed by* : C. H. Robinson, A. Linton Davidson, J. Dick.
- (b)**Wickham, Kenneth Alan**, Inter.B.Sc. British. 39, Smitham Downs Road, Purley. Research Chemist, British Coal Utilisation Research Association. *Signed by* : Maurice H. Pearson, E. S. Stockton, Ronald H. Smith.
- †**Woollatt, Edgar**, B.Sc.Hons. (Lond.), A.M.I.Chem.E., Ramsay Diploma in Chemical Engineering. British. 10, Woodfield Road, Bebington. Chemical Engineer. *Signed by* : Percy N. Williams, B. D. W. Luff, W. H. C. Simmonds.
- †**Worden, Alastair Norman**, B.A. (Cantab.), B.Sc. (Lond.), A.R.I.C., M.R.C.V.S. British. University College of Wales, Aberystwyth. Milford Professor of Animal Health, University College of Wales, Aberystwyth. *Signed by* : C. W. Davies, J. B. Bowen, Kurt Heller.



**UNDER SPECIAL PROVISION APPERTAINING TO CANDIDATES RESIDENT ABROAD.**

- ‡**Biermans, Jean**, Ingenieur Tech. Ind. Chim. (Institut Meurice-Chimie, Belgium). Belgian. 5, Rue Maelbeek, Dilbeek, Belgium. Managing Director at the "Usines Robert Houben" (Dilbeek). *Signed by* : L. Flamache, F. Meunier.
- Mund, Walter Emile Marie**, D.Sc. (Louvain). Belgian. 32, Rue de Beriot, Louvain, Belgium. Professor Physical Chemistry in the University of Louvain. *Signed by* : F. G. Donnan.
- Schopman, Felix Robert**, Nat. Phil. Cond. (Univ. Groningen, Holland), Dutch. Stadionkade 81<sup>II</sup>, Amsterdam (Z), Holland. Student, University of Amsterdam and Research worker at "Werkspoor M.V." Amsterdam. *Signed by* : J. P. Wibaut.
- Wilson, Thomas Henry**. British. 10, Ardmore Road, Herne Bay, Auckland, New Zealand. Senior Assistant Analyst. *Signed by* : Alf. J. Parker.

\* Reduced annual subscription.

† Three-body.

‡ Two-body.

(a) Junior Membership two-body.

(b) Junior Membership three-body.

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**PAPERS RECEIVED**

List of papers received between September 15th and October 4th, 1945. (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 course of autoxidation reactions in polyisoprenes and allied compounds. Part X. Peroxidation of methyl elæostearate." By A. SUNDRALINGAM.
- "The preparation of 7-hydroxy-2-aminofluorene." By F. GOULDEN and G. A. R. KON.
- "The ternary systems NaSCN-Ca(SCN)<sub>2</sub>-H<sub>2</sub>O, KSCN-Ca(SCN)<sub>2</sub>-H<sub>2</sub>O, NH<sub>4</sub>SCN-Ca(SCN)<sub>2</sub>-H<sub>2</sub>O and Ca(SCN)<sub>2</sub>-AgSCN-H<sub>2</sub>O at 25°." By A. K. MCKERROW, V. J. OCCLESHAW, and (in part) F. DRABBLE.
- "Researches on acetylenic compounds. Part I. The preparation of acetylenic ketones by oxidation of acetylenic carbinols and glycols." By K. BOWDEN, I. M. HEILBRON, E. R. H. JONES, and B. C. L. WEEDON.
- "Researches on acetylenic compounds. Part II. (A) The addition of amines to ethynyl ketones. (B) Auxochromic properties and conjugating power of the amino group." By K. BOWDEN, E. A. BRAUDE, E. R. H. JONES, and B. C. L. WEEDON.
- "Researches on acetylenic compounds. Part III. Diene additions to ethynyl ketones." By K. BOWDEN and E. R. H. JONES.
- "Researches on acetylenic compounds. Part IV. The hydration of some acetylenyl-carbinols derived from αβ-unsaturated aldehydes." By I. M. HEILBRON, E. R. H. JONES, P. SMITH, and B. C. L. WEEDON.
- "Studies in the polyene series. Part XXII. Condensations between propargyl methyl ether and αβ-unsaturated carbonyl compounds." By I. M. HEILBRON, E. R. H. JONES, and R. N. LACEY.
- "Sulphur derivatives of thiazoles." By E. M. GIBBS and F. A. ROBINSON.
- "New naphthalene compounds structurally related to stilbœstrol." By B. J. F. HUDSON.
- "*p*-Aminobenzenesulphonamide derivatives of pyrimidine. Preparation as antibacterial agents." By F. L. ROSE and G. A. P. TUEY.
- "The acetone derivatives of hexahydric alcohols. Part I. Triacetone mannitol and its conversion into *d*-arabinose." By L. F. WIGGINS.
- "The preparation of ω-ethyl-ω-*n*-decyl-ω-*n*-dodecylacetophenone and related substances." By C. L. CARTER and S. N. SLATER.
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## LOCAL REPRESENTATIVES OF THE CHEMICAL SOCIETY

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

## THE CHEMICAL SOCIETY

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### NOTICE OF FORTHCOMING SCIENTIFIC MEETINGS

LONDON (*Burlington House*).

Thursday, December 6th, 1945, at 5 p.m.

The following papers will be read and discussed :

"The constitution of *pseudo*-santonin. Part I." By G. R. Clemo and Wesley Cocker.

"The constitution of *pseudo*-santonin. Part II. The preparation of certain dimethyl naphthols." By Wesley Cocker.

"Experiments in the piperidine series. Part I." By A. H. Cook \* and K. J. Reed.

"Part II." By R. M. Anker, A. H. Cook,\* and I. M. Heilbron.

"Part III." By R. M. Anker and A. H. Cook.\*

"Structure of compounds of ferrocyanide type. Part I. Crystal structure of hexamethylisocyanide ferrous chloride." By H. M. Powell \* and G. W. R. Bartindale.

Thursday, January 17th, 1946, at 5 p.m.

Tilden Lecture, **Substitution**, by Professor E. D. Hughes, D.Sc., F.R.I.C.

MANCHESTER.

Friday, December 7th, 1945, at 6 p.m.

Lecture, **The Principles of Crystal Analysis**, by Professor J. M. Robertson, M.A., D.Sc., F.R.S.

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

Thursday, January 24th, 1946, at 6 p.m.

Tilden Lecture, **Some Recent Developments in the Chemistry of Free Radicals**, by Dr. W. A. Waters, M.A.

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

SOUTH WALES.

Monday, January 28th, 1946, at 6 p.m.

Lecture, **The Separation of Isotopes and Thermal Diffusion**, by Professor J. Kendall, D.Sc., F.R.S.

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

(This lecture was postponed from October 29th, 1945.)

\* To read paper.

## LOCAL REPRESENTATIVES OF THE CHEMICAL SOCIETY

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

# PROCEEDINGS OF THE CHEMICAL SOCIETY.

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## Minutes of a SCIENTIFIC MEETING

held at Burlington House, Piccadilly, W. 1, on Thursday, November 1st, 1945, at 5 p.m.

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

### MINUTES.

The Minutes of the Scientific Meeting held on the 4th October were taken as read and signed.

### FORMAL ADMISSION OF FELLOWS.

The following were admitted Fellows of the Chemical Society: A. G. D. Emerson, T. A. Rohan, A. Campbell, D. W. Jopling, J. R. Park, R. L. Blackmore, R. Ghosh.

### SCIENTIFIC COMMUNICATIONS.

The following papers were read and discussed:

"Mesohydric tautomerism." By L. Hunter.

"The sorption of condensable vapours by porous solids. Part III. Multimolecular adsorption. Part IV. Linear isothermals and the Langmuir equation." By A. G. Foster.

"Retention of asymmetry during the Beckmann, Lossen, and Curtius changes." By A. Campbell and J. Kenyon.

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## OFFICIAL ANNOUNCEMENTS

### DEATHS.

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

	Elected.	Died.
Lancelot Alexander Borradaile .....	May 16th, 1895.	Oct. 20th, 1945.
Satyendra Nath Chakravarti .....	Feb. 17th, 1927.	Aug. 30th, 1945.
Arthur James Cooper .....	Dec. 15th, 1892.	Dec. 6th, 1944.
John Evans .....	Dec. 1st, 1904.	July 1st, 1945.
Ernest Gabriel Jones .....	Feb. 20th, 1941.	July 14th, 1945.
Donald Purdie .....	June 6th, 1935	1944.

(Prisoner in Japanese hands—date of death presumed.)

### PRESENTATION TO MR. S. E. CARR.

It has been suggested that many Fellows of the Society would welcome an opportunity of contributing to a presentation to Mr. S. E. Carr on his retirement from the office of General Secretary after forty-two years of service. The Council decided to invite contributions of not more than ten shillings from Fellows and friends. The nature and date of the presentation will be decided at a later date and notified to contributors.

Contributions should be sent, not later than January 31st, 1946, to Dr. D. C. Martin, General Secretary, at Burlington House, W. 1. Fellows desirous of paying through a bank should cross cheques "S. E. Carr Fund."

### ACKNOWLEDGMENTS.

The thanks of the Council have been conveyed to Mr. K. H. Wilks for a gift of Publications.

**EDITORSHIP.**

Dr. J. E. Driver has been appointed Editor as from January 1st, 1946, in place of Professor C. S. Gibson who is kindly serving temporarily as Acting Editor.

**ACCOMMODATION OF THE LIBRARY.**

For many years past it has been a problem of increasing urgency to find adequate accommodation for the library of the Society. The only completely satisfactory solution would be a removal to new premises with proper housing for the library, but a drastic reconsideration of all possible ways of finding extra space at Burlington House has now led to new steps which will meet the need for shelving space for a few more years. These steps involve serious additional inconvenience to the Office and Library staffs, but will not for the present cause any interference with the Society's meeting room. At the same time the arrangement of the library reading-room has been improved so as to provide accommodation for a number of additional readers.

**ELECTION OF NEW FELLOWS.**

The following 23 candidates were elected Fellows of the Chemical Society on November 1st, 1945 :

John Dempster.	John Archer Mills.	Irvine Giles Rankin.
Bernard Thomas Donovan.	Philip Edward Lovering.	James Charles Cyril Ransom.
Francis Barnett Dudley.	John Main McGowan.	Albert John Seavell.
Harold Fore.	William Lindsay Mosby.	Oliver Stephenson.
Gordon Howard Foxon.	Margaret McCowan Stewart Mackie.	Guy Harold Ralph Watson.
Norah Hall.	Thomas Patrick Cunningham Mulholland.	Geoffrey Albert Weeks.
Robert Theodore Hunter.	John Young Fraser Paterson.	Edward Arthur Williams.
Narinder Singh Kapur.	Felix Popper.	

**LOCAL REPRESENTATIVES.***BRISTOL.*

Dr. C. E. H. Bawn, Department of Chemistry, The University, Woodland Road, Bristol, has accepted the invitation of the Council to become the Representative of the Society in the Bristol Area in place of Dr. E. B. Maxted who has resigned.

*SOUTHAMPTON.*

The Council has decided to appoint a Local Representative in the Southampton Area, and Dr. S. H. Harper, University College, Southampton, has accepted the invitation of the Council to become the first Local Representative.

**BRITISH STANDARDS TECHNICAL COMMITTEE: C/17, VISCOSITY.**

Dr. A. E. Dunstan has been nominated as the Society's Representative on this Committee.

**PAPER ON GERMAN RESEARCH WORK.**

A paper entitled "Cyclopolyolefines," describing hitherto unpublished research work carried out in Germany, has been received from the Ministry of Supply. Copies of this paper have been placed in the Library and may be examined, or borrowed, on application to the Librarian.

**CHRISTMAS CLOSING OF THE LIBRARY.**

The Library will be closed for the Christmas Holidays from Monday, December 24th, until Thursday, December 27th, both dates inclusive.

**MEETINGS OUTSIDE LONDON.***GLASGOW.*(a) *On October 26th.*

At a joint meeting of the Society with the Glasgow University Alchemists' Club and the Andersonian Chemical Society held in the Chemistry Department, The University, Glasgow, on Friday, October 26th, Sir Robert H. Pickard delivered a lecture on "Long Chain Molecules." Professor J. M. Robertson occupied the Chair. After consideration of the work of Carothers on the self-esterification of hydroxy acids, the development of some aspects of the chemistry of long-chain molecules was critically discussed. A vote of thanks to the lecturer, proposed by Mr. H. Winning, President of the Andersonian Chemical Society, was enthusiastically carried.

(b) On November 16th.

A joint meeting of the Chemical Society with the local sections of the Royal Institute of Chemistry and the Society of Chemical Industry was held in the Royal Technical College, Glasgow, on Friday, November 16th, with Professor J. M. Robertson, F.R.S., in the Chair, when Professor J. M. Gulland, F.R.S., lectured on "Polynucleotides and Nucleoproteins."

After discussing the widespread occurrence, biological importance, and probable function, of nucleic acids, Professor Gulland considered the problem of the formation of nucleic acids from the nucleotide units in the light of recent work.

## MANCHESTER.

On October 29th.

Jointly with the local sections of the Society of Chemical Industry and Royal Institute of Chemistry the Manchester section held a meeting on October 29th at the Engineers' Club, when Mr. F. P. Dunn, the Treasurer of the Society, delivered a lecture entitled "The Publication of the Three Chartered Bodies."

After an historical survey, he outlined the present financial arrangements for publications and indicated the planned future improvements. The Lecture, illustrated by lantern slides, was followed by an enthusiastic discussion. The Chairman was Mr. J. T. Marsh, and a vote of thanks proposed by Mr. C. Gysin, seconded by Dr. F. S. Spring, was carried with acclamation.

## SHEFFIELD.

(a) On October 26th.

A meeting of the Society was held jointly with the South Yorkshire Section of the Royal Institute of Chemistry and the University of Sheffield Chemical Society on Friday, October 26th, 1945, at 6.30 p.m., in the Chemistry Lecture Theatre of the University, with Professor R. D. Haworth, F.R.S., in the Chair. Professor D. T. A. Townend, D.Sc., and Dr. J. E. Garside lectured on "Burner Flames," Professor Townend discussing "Quiescent Flames" and Dr. Garside "Turbulent Flames." The lectures and demonstrations were greatly appreciated by a large audience, and a vote of thanks to the two lecturers, proposed by Dr. Mott and seconded by Miss E. G. Turner, was carried with enthusiasm.

(b) On November 16th.

A joint meeting of the Society and the University of Sheffield Chemical Society was held in the Chemistry Lecture Theatre of the University on Friday, November 16th, 1945, at 5.30 p.m., with Professor R. D. Haworth, F.R.S., in the Chair, when Professor I. M. Heilbron, D.S.O., LL.D., F.R.S., Vice-President of the Society, delivered a lecture on "Our War against Insect Pests," to a very large and appreciative audience. After outlining the main developments in the field of Chemotherapy since the time of Ehrlich, Professor Heilbron proceeded to give a fascinating account of the discovery and application of the insecticide DDT. A lively and interesting discussion followed, and, at the close, a vote of thanks to Professor Heilbron, proposed by Dr. Brynmor Jones, and seconded by Mr. A. R. Pinder, was carried with acclamation.

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**LIST OF APPLICATIONS FOR FELLOWSHIP**

(Fellows wishing to lodge objections to the election of these candidates should communicate with the Honorary Secretaries before December 31st, 1945. Such objections will be treated as confidential. The forms of application are displayed in the Library.)

† **Ault, Robert Geoffrey**, B.Sc.Hons. and Ph.D. (Birm.), F.R.I.C. British. The Laboratory, Mitchells & Butlers, Ltd., Cape Hill, Birmingham. Research Chemist and Bacteriologist. Signed by: W. N. Haworth, M. Stacey, Stanley Peat.

\* **Bentley, Kenneth Walter**. British. 6, Lower Rushton Road, Thornbury, Bradford. Reading for Honours Degree in Chemistry at Lincoln College, Oxford. Signed by: Ronald P. Bell, N. V. Sidgwick, F. M. Brewer.

\* **Berlak, Marianne Cecilia**, B.Sc.Hons. (Lond.). Stateless, former German. 283, Watford Way, Hendon, N.W. 4. Assistant Chemist (Research) at English Metal Powder Co., Ltd., West Drayton. Signed by: D. H. Richardson, W. Gerrard, G. W. Wrzeszinski.

**Birch, Harold Foster**, B.Sc.Hons. and Ph.D. (L'pool). British. 29, Wetstone Lane, West Kirby. Organic Chemist, Cinchona Research Organisation (Colonial Service). Signed by: T. A. Henry, J. A. Goodson, T. M. Sharp.

- Bowyer, Henry**, British. 3, Buckley Crescent, Little Bispham, Blackpool. Chemist (Manufacturing). *Signed by* : C. D. Moore, Howard A. Costigan, Edward B. Oldbury.
- \***Bristow, Norman William**, B.A. Part II Natural Sciences Tripos (Chemistry), 1945 (Cantab.). British. Emmanuel College, Cambridge. Research Student at University Chemical Laboratory, Pembroke Street, Cambridge. *Signed by* : F. S. Dainton, B. A. Kilby, A. R. Todd.
- \***Brown, Ben Ronald**, British. 109, Queen Street, Swinton, Mexborough. Reading Part I Honours Chemistry, Oxford. *Signed by* : D. Ll. Hammick, H. R. Ing, A. S. Bailey.
- †**Caldwell, Charles Collingwood**, B.Sc. (Lond.), A.R.I.C. British. Montrose, Harpenden Road, St. Albans. Army Officer. *Signed by* : R. Leslie Collett, H. J. T. Ellingham, Alex. Findlay.
- (a)**Cohn, Irene Marianne**, Inter.B.Sc. (Lond.), Student for B.Sc. (Sp.) Chemistry. German. 24, Hill Rise, N.W. 11. Research Assistant. *Signed by* : D. J. G. Ives, Wm. Wardlaw, M. B. Green.
- †**Coxon, Wilfred Francis**, M.Sc. and Ph.D. (Lond.), F.R.I.C. British. 35, Castlebar Road, Ealing, W. 5. Principal Technical Officer, M.A.P. *Signed by* : R. J. W. Le Fèvre, D. H. Peacock, H. J. T. Ellingham.
- (a)**Critchley, Stanley**, A.R.I.C. 41, Sutton Road, Askern, nr. Doncaster. Analytical Chemist, British Bemberg, Ltd., Wheatley, Doncaster. *Signed by* : Harry Wilson, E. A. Boyce, R. Leslie Collett.
- Cuthbertson, William Wilson**, B.Sc.Hons. (St. Andrews), Research Worker for 2 years at St. Andrews University. British. 39, Eddy Close, Jutsums Lane, Romford. Research Chemist in the Chemotherapeutic Research Division of May and Baker, Ltd., Dagenham. *Signed by* : J. C. Irvine, John Read, John Dewar.
- †**Darlaston, Arthur John Halstead**, B.A. (Oxon.), A.R.I.C. British. 40, Gloucester Road, New Barnet. Chief Chemist, Cosmos Manufacturing Co., Ltd. (Radio Valve Manufacturers), Brimsdown, Enfield. *Signed by* : Leonard Levy, D. W. West, E. G. V. Barrett.
- †**Deverell, David**, B.Sc.Hons. (Lond.). British. 16, Chalgrove Crescent, Clayhall Avenue, Ilford. Analytical Chemist. *Signed by* : H. Wells, R. W. Hodgkinson, Maurice H. Pearson.
- Devlin, William St. J.**, M.Sc. (N.U.I.), A.R.I.C. Irish. 2, Patrick Street, Cork. Research Chemist, M. Atkins, Chemical Manufacturers. Part-time Lecturer in Chemistry and Physics in Crawford Municipal Technical Institute. *Signed by* : Joseph Reilly, Michael A. Fielding, John C. Aherne.
- Ellinger, Leo Philipp**, M.A. and D.Phil. (Oxon.). German. 4, Heath Mansions, Putney Heath Lane, S.W. 15. Research Chemist at Ward, Blenkinsop & Co., Ltd., Greenland Mills, Bradford-on-Avon. *Signed by* : S. G. Waley, Walter T. J. Morgan, S. S. Zilva.
- †**Evans, Alfred Alexander**, B.Sc. and Ph.D. (Lond.), A.R.I.C. British. 19, Duppas Hill Road, Wadden, Croydon. Chemist, Roche Products, Welwyn Garden City. *Signed by* : J. A. R. MacLean, M. Davis, F. B. Jones.
- (b)**Foxcroft, Hugh John**, B.Sc. Physics (Subsid.), taking Special Chemistry in June, 1946. Registered Student, Royal Institute of Chemistry. British. 66, Dorset Road, Merton Park, S.W. 19. Plant Chemist with Organon Laboratories, Ltd., Deer Park Road, Lombard Road, Merton, S.W. 19. *Signed by* : J. W. Smith, Norman B. Peake, Paul F. Holt.
- †**Franklin, Charles Ronald**, B.Sc.Hons. (Wales), Diploma in Chemical Engineering (London). British. 74, The Drive, Golders Green, N.W. 11. Chemical Engineer to Messrs. Carless, Capel and Leonard of Hackney Wick, E. 9. *Signed by* : J. E. Coates, L. E. Hinkel, E. E. Ayling, N. H. Hartshorne, R. H. Davies.
- (a)**Gilby, Jack Arthur**, Inter.B.Sc. (Lond.). British. 94, Longcroft Lane, Welwyn Garden City. Junior Chemist. *Signed by* : W. Gerrard, A. Cohen, F. P. Handisyde.
- (a)**Gutmann, Ernest Michael**, Inter.B.Sc. and B.Sc.Subsid. in Physics (Lond.). Formerly German. 45, Kingsley Court, Park Avenue, N.W. 2. Research Assistant. *Signed by* : M. B. Green, Wm. Wardlaw, D. J. G. Ives.
- \***Hillman, Margaret Elizabeth**, B.Sc.Hons. (Lond.). British. 60, Ellerton Road, S.W. 18. Research Chemist at British Rubber Producers Research Association. *Signed by* : G. M. Bennett, Gwyn Williams, C. S. Salmon.
- \***Latham, Donald**, London Matriculation. British. 199, Bellingham Road, Catford, S.E. 6. H.M. Forces (Army). *Signed by* : B. C. Platt, W. Solomon, T. M. Sharp.
- Levy, Paul Russell**, B.Sc.Hons. (Witwatersrand). South African National. 57, St. Patrick Road, Houghton Estate, Johannesburg. Graduate Assistant, Chemistry Department, Witwatersrand University. *Signed by* : Henry Stephen, H. R. Raikes, O. G. Backeberg.
- \***Loewenthal, Hans Jakob Edgar**, B.Sc.Hons. (Lond.). German. 15, Dunstan Road, N.W. 11. Research Chemist with Chemi-Synthetics, Ltd., Saunders Ness Road, E. 14. *Signed by* : H. Lambourne, J. Pomeranec, W. M. Wolf.
- \***Macdowell, Denis William Herbert**, B.Sc.Hons. (Q.U.B.). British. 70, Maryville Park, Malane Road, Belfast. Research Chemist, Linen Industry Research Association, Lambeg, Co. Antrim. *Signed by* : Henry Wren, R. W. Kinkead, Trevor G. Majury.
- †**Mackenzie, Kenneth**, M.Sc.Tech. (Manc.), Ph.D. (Aberd.), A.M.C.T. British. Woodlands, Tring. Chief Chemist, Hordern Richmond, Ltd., Haddenham. *Signed by* : E. G. V. Percival, T. R. Bolam, Neil Campbell.
- †**McLean, John**, Ph.D. (Glas.), and B.Sc. F.R.I.C. British. 810, Crow Road, Glasgow, W. 3. Lecturer in Chemistry, Royal Technical College, Glasgow, C. 1. *Signed by* : I. Vance Hopper, John A. Cranston, A. B. Crawford.
- Merton, William Ralph**, M.A.Hons. (Oxon.). British. 26a, North Audley Street, W. 1. Scientific Consultant. *Signed by* : Alfred C. Egerton, Thomas R. Merton, H. T. Tizard.
- †**Murfin, John Webster**. Passed theory papers of London B.Sc. (Special Chem.) while P.O.W. in Germany. Registered Student of Royal Institute of Chemistry. British. 10, Kingston Road, West Bridgford. Student at Nottingham University College studying to complete degree of London B.Sc. (Special Chemistry). *Signed by* : D. O. Jordan, John C. Roberts, H. F. W. Taylor.
- †**Nicholson, Jack**, B.Sc.Hons. (Manc.), A.R.I.C., Diploma of Education (Manc.). British. Inglenook, Stockingate, South Kirkby, nr. Pontefract. Metallurgical Research Chemist. *Signed by* : J. B. M. Herbert, Colin Campbell, F. Fairbrother.
- †**Nickels, Kenneth Ernest**, B.Sc. (Lond.), A.M.I.Chem.E. British. 31, Stonehouse Road, Sutton Coldfield. Chemical Engineer. *Signed by* : C. Diamond, F. Stanley Brown, H. Paul.
- O'Tuama, Diarmuid**, M.Sc. (N.U.I.). Irish. 55, Annamoe Road, Cabra, Dublin. Research Chemist with the Medical Research Council of Ireland. *Signed by* : Vincent C. Barry, T. S. Wheeler, A. G. G. Leonard.



- †**Pleaden, Ronald Francis**, B.Sc. (Lond.), F.R.I.C. British. Ordnance Factory, Khamaria, Jubbulpore, C.P., India. Indian Ordnance Service. *Signed by* : R. Leslie Collett, Alex. Findlay, H. J. T. Ellingham.
- (b)**Roberts, Robert**, B.Sc.Hons. (Wales). British. Nuneham, North Road, Aberystwyth. Research Student, University College of Wales, Aberystwyth. *Signed by* : C. W. Davies, K. Heller, J. B. Bowen.
- †**Savill, Albert Henry**, M.Sc. (Lond.), A.R.I.C. British. Wandsworth and District Gas Co., Fairfield Street, Wandsworth, S.W. 18. Chief Chemist. *Signed by* : E. de Barry Barnett, John R. Dewhurst, Eunice A. Bucknell.
- \***Smith, Herschel**, B.A.Hons. (Cantab.). British. Emmanuel College, Cambridge. Research Student. *Signed by* : F. S. Dainton, D. R. Lyon, F. G. Holliman.
- Simpson, James Dudley Moor**, B.Sc.Hons. (Witwatersrand). South African National. 6a, Eight Street, Springs, Transvaal. Graduate Assistant, Department of Chemistry, The University, Witwatersrand. *Signed by* : Henry Stephen, H. R. Raikes, O. G. Backeberg.
- †**St. John, Dara Derrick Phiroz**, B.Sc. (Lond.), A.R.I.C. British. 199, Tilehouse Green Lane, Knowle. Research Chemist. *Signed by* : G. Barnett, E. G. K. Pritchett, C. E. Scoffom.
- †**Yound, Frederick Robert**, B.Sc.Hons. (Birm.), A.R.I.C. British. 11, Mayfield Road, Edinburgh, 9. At present serving in H.M. Forces, Captain, Royal Electrical and Mechanical Engineers. *Signed by* : W. N. Haworth, Stanley Peat, S. R. Carter.

#### UNDER SPECIAL PROVISION APPERTAINING TO CANDIDATES RESIDENT ABROAD.

- Bergmann, Felix**, Dr.Phil. and Dr.Med. (Berlin). Palestinian. The Daniel Sieff Research Institute, Rehovoth, Palestine. Research Chemist, Sieff Institute. *Signed by* : L. Haskelberg, A. Fodor.
- †**Cavill, George William Kenneth**, B.Sc. (Sydney), A.R.I.C. British. 40, Chandos Street, Ashfield, N.S.W. Lecture in Chemistry, Sydney Technical College. *Signed by* : J. C. Earl, T. Iredale.
- †**Joiner, William Alexander**, M.Sc. (New Zealand), Diploma in Chemical Engineering (Lond.), F.R.I.C., A.M.I.Chem.E. British. Dominion Laboratory, Department of Scientific and Industrial Research, Wellington, New Zealand. Assistant Director and Chief Chemical Engineer (Dominion Laboratory). *Signed by* : L. H. James.

\* Reduced annual subscription.

† Three-body.

‡ Two-body.

(a) Junior Membership two-body.

(b) Junior Membership three-body.

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#### PAPERS RECEIVED

List of papers received between October 5th and November 1st, 1945. (This list does not include the titles of papers which have been read at a Scientific Meeting or which have appeared in the *Journal*.)

- "Physical properties and chemical constitution. Part IX. Aliphatic hydrocarbons." By A. I. VOGEL.
- "Acetylation of some 5-aminoacridines." By J. H. WILKINSON and I. L. FINAR.
- "New potential chemotherapeutic agents. Part III. Derivatives of diphenylamine and of  $\alpha$ -diphenylmethylamine." By F. E. KING, T. J. KING, and (MISS) I. H. M. MUIR.
- "The course of autoxidation reactions in polyisoprenes and allied compounds. Part XI. Double bond movement during the autoxidation of a mono-olefin." By E. H. FARMER and D. A. SUTTON.
- "New synthetic oestrogens. Part I. The synthesis of  $\alpha : \beta : 2 : 2'$ -tetramethyl-4 : 4'-dihydroxystilbene and  $\alpha : \beta : 2 : 2'$ -tetramethyl-4 : 4'-dihydroxydibenzyl." By B. J. F. HUDSON and E. WALTON.
- "The structure of some electron-deficient molecules." By H. C. LONGUET-HIGGINS.
- "Chemical investigations of the insecticide 'DDT' and its analogues. Part I. Reactions of 'DDT' and associated compounds." By J. FORREST, O. STEPHENSON, and W. A. WATERS.
- "Experiments in the piperidine series. Part III." By R. M. ANKER and A. H. COOK.
- "Studies in the detoxication of catalyst poisons. Part IV. Detoxication of carbon disulphide." By E. B. MAXTED and A. MARSDEN.
- "Reactions of alkylisofornanilides. Part II. With reactive pyridinium salts." By E. B. KNOTT.
- "Aminoalkyl esters of thiazolecarboxylic and thiazolyl-4-acetic acids." By E. R. H. JONES, F. A. ROBINSON, and M. N. STRACHAN.
- "Quinolyl derivatives of *p*-aminobenzamide." By J. H. GORVIN.
- "The mechanism of benzidine-type rearrangements, and the rôle of  $\pi$ -electrons in organic chemistry." By M. J. S. DEWAR.
- "Contributions to the chemistry of synthetic antimalarials. Part II. Tetrahydro-pamaquin." By H. J. BARBER and W. R. WRAGG.
- "Some 5-*spiro*thiazolidiones." By E. R. H. JONES, F. A. ROBINSON, and M. N. STRACHAN.
- "Cinnolines. Part V. The reaction between pyridine, acetic anhydride, and 4-hydroxycinnoline-3-carboxylic acid." By K. SCHOFIELD and J. C. E. SIMPSON.
- "Cinnolines. Part VI. Derivatives of 4-hydroxy-6 : 7-dimethoxycinnoline-3-acetic acid." By J. C. E. SIMPSON.

- "Organic sulphur compounds. Part XXIX. Experiments with 1-thio- $\gamma$ -pyrones. Thermal rearrangement of 1-thio- $\gamma$ -pyrone derivatives into the isomeric 1-thio- $\alpha$ -pyrone derivatives." By A. SCHÖNBERG and (Miss) W. ASKER.
- "Action of Grignard's reagent. Part II. Replacement of the oxygen atoms of ketones for two hydrocarbon radicals by the action of Grignard's reagent." By A. SCHÖNBERG and (Miss) W. ASKER.
- "1 : 2 : 3 : 4-Tetrachloronaphthalene." By W. P. WYNNE.
- "The identity of 6-aminoacetoveratrone." By J. C. E. SIMPSON.
- "Substances allied to benzylamine-4-sulphonamide." By T. DEWING.
- "Nitration of aromatic *ortho*hydroxycarboxylic acids and their esters with diacetyl*ortho*nitric acid." By H. C. BARANY and M. PIANKA.

# THE CHEMICAL SOCIETY

## NOTICE OF FORTHCOMING SCIENTIFIC MEETINGS

### LONDON (*Burlington House*).

Thursday, January 17th, 1946, at 5 p.m.

Tilden Lecture, **Substitution**, by Professor E. D. Hughes, D.Sc., F.R.I.C.

Thursday, February 7th, 1946, at 5 p.m.

Meeting for the reading of original papers. (Further particulars will be announced.)

### BIRMINGHAM.

Tuesday, February 12th, 1946, at 4 p.m.

Pedler Lecture entitled **Synthesis in the Study of Nucleotides**, by Professor A. R. Todd, D.Sc., F.R.S.

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

### EDINBURGH.

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

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

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

### GLASGOW.

Friday, February 15th, 1946, at 5.30 p.m.

Tilden Lecture and Official Meeting of the Society, **Some Recent Developments in the Chemistry of Free Radicals**, by Dr. W. A. Waters, M.A.

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

### LIVERPOOL.

Thursday, February 21st, 1946, at 5 p.m.

Lecture, **The Chemical Investigation of some New Therapeutic Agents**, by Dr. F. E. King, M.A.

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

### MANCHESTER.

Thursday, January 24th, 1946, at 6 p.m.

Tilden Lecture, **Some Recent Developments in the Chemistry of Free Radicals**, by Dr. W. A. Waters, M.A.

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

Wednesday, February 27th, 1946, at 7 p.m.

Lecture, **What Industry Expects from the Chemist**, by Dr. C. J. T. Cronshaw, F.R.I.C.

Joint meeting with the local section of the Royal Institute of Chemistry, to be held at the Engineers' Club, Albert Square.

*NEWCASTLE and DURHAM.*

Friday, February 22nd, 1946, at 5.30 p.m.

Bedson Club Lecture, **Structural Inorganic Chemistry**, by Professor W. Wardlaw, D.Sc., F.R.I.C.  
To be held in King's College, Newcastle-on-Tyne, and all Fellows are invited.

Friday, March 1st, 1946.

Meeting for the reading of original papers.

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

*NORTH WALES.*

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

Lecture, **The Structure of Boron Hydrides and Similar Compounds**, by Mr. R. P. Bell, M.A., F.R.S.

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

*ST. ANDREWS and DUNDEE.*

Friday, January 25th, 1946, at 5 p.m.

Lecture, **Chemical Products from Seaweeds**, by E. G. V. Percival, D.Sc., Ph.D., F.R.I.C.

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

Monday, February 18th, 1946, at 5 p.m.

Lecture, **Electrolytic Dissociation in Salt Solution**, by Professor C. W. Davies, D.Sc., F.R.I.C.

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

*SHEFFIELD.*

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

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

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

*SOUTH WALES.*

Monday, January 28th, 1946, at 6 p.m.

Lecture, **The Separation of Isotopes and Thermal Diffusion**, by Professor J. Kendall, D.Sc., F.R.S.

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

# PROCEEDINGS

OF THE

## CHEMICAL SOCIETY.

### Minutes of a SCIENTIFIC MEETING

held at Burlington House, Piccadilly, W. 1, on Thursday, December 6th, 1945, at 5 p.m.

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

#### MINUTES.

The Minutes of the Scientific Meeting held on November 1st were taken as read and signed.

#### FORMAL ADMISSION OF FELLOWS.

The following were admitted Fellows of the Chemical Society: E. S. Stern, J. G. Burgan, D. E. Butterfield.

#### SCIENTIFIC COMMUNICATIONS.

The following papers were read and discussed:

- "The constitution of *pseudo*-santonin. Part I." By G. R. Clemo and Wesley Cocker.
- "The constitution of *pseudo*-santonin. Part II. The preparation of certain dimethyl naphthols." By Wesley Cocker.
- "Experiments in the piperidine series. Part I." By A. H. Cook and K. J. Reed.
- "Experiments in the piperidine series. Part II." By R. M. Anker, A. H. Cook, and I. M. Heilbron.
- "Experiments in the piperidine series. Part III." By R. M. Anker and A. H. Cook.
- "Structure of compounds of ferrocyanide type. Part I. Crystal structure of hexamethylisocyanitrilo-ferrous chloride." By H. M. Powell and G. W. R. Bartindale.

#### OFFICIAL ANNOUNCEMENTS

#### DEATHS.

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

	Elected.	Died.
Francis William Aston ... ..	1935	Nov. 20th, 1945
William Barr ... ..	1943	Aug. 15th, 1945
Reginald Busby Brown ... ..	1892	Nov. 24th, 1945
Patrick Joseph Dominick Fielding ... ..	1895	Nov. 1944
John Berridge Fraser ... ..	1944	Oct. 8th, 1945
Archibald Reid Ormiston ... ..	1887	Dec. 11th, 1934
John Sanderson ... ..	1888	Feb. 13th, 1945
Bertram George Swannell ... ..	1945	Nov. 1st, 1945
James Fowler Tocher ... ..	1891	Nov. 8th, 1945
Eduard Zintl ... ..	1934	Jan. 17th, 1941

#### CONGRATULATIONS.

The Council have sent congratulations to John S. Adriance, who completed 60 years of Fellowship on December 3rd, 1945, and to the following who completed 50 years of Fellowship on December 5th, 1945:

Arthur J. Chapman.

James Henderson.

Clarence A. Seyler.

#### PRESENTATION TO MR. S. E. CARR.

It has been suggested that many Fellows of the Society would welcome an opportunity of contributing to a presentation to Mr. S. E. Carr on his retirement from the office of General Secretary after forty-two years of service. The Council decided to invite contributions of not more than ten shillings from Fellows and friends. The nature and date of the presentation will be decided at a later date and notified to contributors.

Fellows are reminded that contributions should be sent, not later than January 31st, 1946, to Dr. D. C. Martin, General Secretary, at Burlington House, W. 1. Fellows desirous of paying through a bank should cross cheques "S. E. Carr Fund."

**BEQUEST.**

The Council has been informed that the late Sir Martin Onslow Forster had bequeathed to the Society a legacy of £500.

**ACKNOWLEDGMENTS.**

The thanks of the Council have been conveyed to the Chemical Council for a donation of £1500 towards the cost of the Society's publications in 1945.

Thanks have also been conveyed to Mr. Hugh Main, Mr. Arnold Merrick and the Chemistry Department Library of the University of Glasgow for gifts of publications.

**VACANCY ON THE COUNCIL.**

Dr. S. H. Harper has accepted the Council's invitation to serve on Council until the next Annual General Meeting in place of Professor W. F. K. Wynne-Jones, who has resigned under Bye-Law 56.

**X-RAY CELEBRATIONS IN PRAGUE.**

At the invitation of the Council, Professor E. G. Cox represented the Society at the X-ray Celebrations held in Prague from November 28th to December 2nd, 1945.

**FARADAY SOCIETY.**

It has been agreed that the Faraday Society should be admitted to the Chemical Council and to participate in the Joint Subscription arrangements for 1946. Full details will be sent to Fellows.

**ELECTION OF NEW FELLOWS.**

The following 30 candidates were elected Fellows of the Society on December 6th, 1945 :

Victor John Albericci.	James Alexander Henderson.	Felix Robert Schepman.
Charles Dudley Allen.	Andrew Hunter.	Gordon Scurfield.
Gerald Oliver Aspinall.	Walter Kirkbride.	Donald Arthur Sholl.
Peter John Bernstein.	Theodore Roger Ernest Kressman.	Feodora Lea Sos.
Jean Biermans.	Hugh Christopher Longuet-Higgins.	Alan Scott Taylor.
William MacRoe Collie.	David Huntingford Malan.	Cyril James Watson.
Albert Francis Colson.	Nathan Moss.	Kenneth Alan Wickham.
Albert Bertram Curtis.	Walter Emile Marie Mund.	Thomas Henry Wilson.
William Macgregor Garvie.	Donald Myles.	Edgar Woollatt.
Joseph Ivon Graham.	John Charles Patek.	Alastair Norman Worden.

**RESEARCH GRANTS.**

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

<i>Aberystwyth, University College.</i>				
R. Roberts.	" Investigation of complex compounds with regard to their analytical value "	£	s.	d.
		25	0	0
<i>Auckland, University College</i>				
R. A. Robinson.	" Isopiestic methods of determining the vapour pressure of solutions "...	30	0	0
<i>Bangor, University College.</i>				
I. Dostrovsky.	" Steric factors in substitution reactions " ... ..	10	0	0
<i>Nottingham, University College.</i>				
B. D. Shaw.	" Fission products of pyridine bases " ... ..	10	0	0
<i>Southampton, University College.</i>				
I. G. M. Campbell.	" Stereochemistry of heterocyclic antimony compounds " ... ..	20	0	0
M. Elliott.	" Synthesis of pyrethrins " ... ..	15	0	0
S. H. Harper.	" Synthesis of pyrethrins " ... ..	15	0	0
H. W. B. Reed.	" Synthesis of pyrethrins " ... ..	15	0	0
<i>Swansea, University College.</i>				
N. H. Hartshorne.	" Kinetics of polymorphic change " ... ..	20	0	0
		<hr/> <b>£160 0 0</b> <hr/>		



*EXETER.*

"The Physical Chemistry of Powders and Fine-structured Solids," by Dr. D. H. Bangham, M.C., M.A.

At the meeting held on November 30th the lecturer referred to the great importance of surface forces in practical fields such as adhesion, lubrication, sintering, flotation, and bulk density of fine powders, and pointed to the wide divergence between existing theory and practice. Many of the properties of fine powders such as sintering probably result from the interplay of surface and elastic forces of the particles; the surface forces bring about deformation of the particles at the points of contact—an essentially irreversible effect. Changes of state in the adsorbed films on solids may underlie many of the puzzling effects encountered in the study of adhesion, etc.

*LEEDS.*

Tilden Lecture, "Substitution," by Professor E. D. Hughes, D.Sc., F.R.I.C.

A meeting of local Fellows was held on November 26th in the Chemistry Department, University of Leeds, Professor F. Challenger being in the Chair. At the conclusion of the lecture Professor Hughes replied to questions put by Professor M. G. Evans and Dr. A. G. Evans. A vote of thanks proposed by Dr. J. W. Baker and seconded by Dr. P. D. Ritchie was carried with acclamation.

*MANCHESTER.*

A meeting under the Chairmanship of Dr. F. S. Spring for the reading of the following original papers was held on November 16th in the Chemistry Lecture Theatre of Manchester University :

- (a) "The Heats of Polymerisation of Acrylic Acid, Methacrylic Acid, and Methyl Methacrylate," by A. G. Evans and E. Tyrrell.
- (b) "Some Reactions in the Sulphanilamide Series." (i) "Guanidine Derivatives," by S. Birtwell, E. Haworth, F. L. Rose, G. Swain, and C. H. Vasey. (ii) "Pyrimidine Derivatives," by F. L. Rose and G. Swain.
- (c) "New Methods for End-group Determination in Polysaccharides," by F. Brown, Miss S. Dunstan, T. G. Halsall, E. L. Hirst, and J. K. N. Jones.

*NORTH WALES.*

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

A joint meeting with the College Chemical Society was held in Bangor on November 22nd, and Mr. Colin Eaborn was in the Chair. Professor Cook, after dealing with the use of Colchicine in the treatment of gout, its properties as a mitotic poison and its applications in plant breeding, described degradative and synthetic experiments on its chemical structure. A vote of thanks proposed by Professor E. D. Hughes and seconded by Mr. Neville Thomas, was carried with acclamation.

*NOTTINGHAM.*

"Some Problems in the Chemistry of the Polysaccharides," by Professor E. L. Hirst, D.Sc., F.R.S.

A meeting was held on November 2nd at University College, Professor J. Masson Gulland, D.Sc., F.R.S., being in the Chair. Professor Hirst described the various methods by which the structure of the polysaccharides has been investigated, and discussed, in the light of results obtained by these methods, the structure of cellulose, starch, and the plant gums. After an interesting discussion, Dr. B. D. Shaw thanked Professor Hirst for his lecture.

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

A joint meeting with University College Physical and Chemical Society was held on November 29th at University College, Dr. E. B. R. Prideaux occupying the Chair. Professor Wardlaw reviewed the application of physical methods to the elucidation of the structure of inorganic compounds and showed how the results which have been obtained are putting inorganic chemistry on a much more fundamental basis than hitherto. A vote of thanks to Professor Wardlaw, proposed by Dr. D. O. Jordan, was carried with enthusiasm.



## LIST OF APPLICATIONS FOR FELLOWSHIP

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

- \***Adams, Margaret Mary**. British. 80, Dukes Avenue, Chiswick, W. 4. Student at University College, Southampton, for B.Sc. Special Chemistry (London) degree. *Signed by* : S. H. Harper, H. W. B. Reed, Ishbel G. M. Campbell.
- †**Albon, Norman**, B.Sc. (Lond.), A.R.I.C. British. 30, Salmons Road, Edmonton, N. 9. Research Chemist, Tate and Lyle, Ltd. *Signed by* : Lawrence S. Bull, H. C. S. de Whalley, J. Barrett.
- †**Bannister, Sydney Hubert**, B.Sc.Hons. and M.Sc. (Leeds). British. The Haven, Whittlesford. Production Manager for synthetic resins, Aero Research, Ltd., Duxford. *Signed by* : Frederick M. Rowe, Edward Race, John Rogers, Arnold T. Peters.
- †**Barnard, Harold Randall**, B.Sc. (Lond.). British. 18, Berkeley Street, W. 1. Chemist in charge of Manufacturing Laboratory producing fine chemicals. *Signed by* : R. H. Snode, E. D. Yardley, E. J. Chappel.
- †**Bassett, Edward Arthur**, B.Sc. (Lond.), A.R.I.C. British. 91, Ashridge Crescent, Shooters Hill, S.E. 18. Research Chemist. *Signed by* : H. G. Emblem, Bruno Gluck, Denis E. B. Greensmith.
- †**Beeching, Ethel Irene**, M.Sc. (Lond.), A.R.I.C. British. 16, Chalvey Park, Slough. Chief Chemist, Mars Confections, Ltd., Slough. *Signed by* : Alex. Findlay, R. Leslie Collett, H. J. T. Ellingham.
- †**Bramley, Donald**, B.Sc.Hons. (Lond.), A.R.I.C. British. c/o British Nylon Spinners, Ltd., 72, Lockhurst Lane, Coventry. Research Chemist. *Signed by* : A. R. Munden, D. A. J. Noble, Ernest E. Tallis.
- \***Buckle, Arnold Lealie John**. British. Cilestyn, Aysgarth Avenue, Liverpool, 12. Final year honours student of Organic Chemistry. *Signed by* : A. McGookin, William Doran, Francis W. Kay.
- †**Buttrey, Douglas Norton**, M.Sc. (Lond.), A.R.I.C., A.R.T.C.S. British. Riven, Goose Green, Hoddesdon, Herts. Research Chemist, Catalin, Ltd., Farm Hill Road, Waltham Abbey. *Signed by* : George Bell, G. Swann, R. S. Colborne.
- †**Caldwell, Albert Gordon**, B.Sc.Hons. (Lond.), A.R.C.S., D.I.C.; Ph.D. thesis submitted. British. 3, Queens Gate Terrace, S.W. 7. Organic Research Chemist, at the Wellcome Chemical Research Laboratories (Wellcome Foundation, Ltd.), Langley Court, Beckenham. *Signed by* : E. R. H. Jones, L. N. Owen, R. M. Anker.
- \***Carter, John Russell**. British. Illston, Roseland Gardens, Highfield, Southampton. Student (Finals B.Sc. Chemistry) at University College, Southampton. *Signed by* : S. H. Harper, N. K. Adam, Ishbel G. M. Campbell, H. W. B. Reed.
- Cave-Browne-Cave, John Evelyn**. Preliminary Exam. in Natural Sciences. British. Bassett Mount, Beechmount Road, Bassett, Southampton. Student for Natural Sciences Tripos Part II (Chemistry), Cambridge University. *Signed by* : F. G. Mann, D. R. Lyon, B. A. Kilby.
- Cherry, George William**, M.A., B.Sc. (Oxon). British. 24, Alsager Avenue, Rushenden, Queenborough. Science Master, Sheerness County Day Technical School and Technical Institute. *Signed by* : G. D. Parkes, Harry Irving, T. Harrington.
- \***Clark, Victor Malcolm**. 1st Class Honours, Natural Sciences Tripos Part I. English. 78, Millfield Road, Ilkeston. Undergraduate reading Part II of Natural Sciences Tripos in Chemistry at Cambridge University. *Signed by* : F. G. Mann, B. Lythgoe, B. A. Kilby.
- Cobb, Raymond**, B.Sc. (Lond.). British. 42, Harcourt Street, Newark. Works Chemist. *Signed by* : D. O. Jordan, John C. Roberts, J. Masson Gulland.
- Dakin, Geoffrey William**, M.A. (Cantab.), M.R.S.T. British. Oakwell, 109, Draycott Avenue, Kenton, Harrow. Teacher of Chemistry, Kilburn Grammar School, N.W. 6. *Signed by* : Hamilton McCombie, H. G. Cook, F. G. Mann.
- \***Dunn, Henry Conrad**, B.Sc.Hons. (L'pool). British. 67, July Road, Liverpool, 6. Student. *Signed by* : A. McGookin, William Doran, Francis W. Kay.
- Edeleanu, Constantin**. Part I Natural Sciences Tripos. Rumanian. Flat 3, 30, Canfield Gardens, N.W. 6. Student reading for Part II Chemistry at Cambridge University. *Signed by* : F. G. Mann, J. Baddiley, D. R. Lyon.
- (b)**Eve, David George Malcolm**, B.Sc.Hons. (Lond.), A.R.I.C. British. 12, Grosvenor Gardens, Upminster. Analytical Chemist. *Signed by* : N. L. Anfilogoff, J. R. Partington, H. D. K. Drew.
- †**Farquhar, Hugh McNair**, B.Sc. (Glas.), A.R.I.C. Scottish. c/o Mrs. Orbell, 9, Drake Street, Lincoln. Research Chemist of Messrs. Fisons, Ltd., Harvest House, Lincoln. *Signed by* : C. B. Bolland, T. P. Dœe, W. M. Cumming.
- †**Foss, Maurice Ernest**, B.Sc.Hons. (Bristol), A.R.I.C. British. Chemistry Department, Guy's Hospital Medical School, London Bridge, S.E. 1. Demonstrator in Chemistry, Guy's Hospital Medical School. *Signed by* : Charles S. Gibson, E. L. Hirst, J. K. N. Jones, R. V. G. Ewens, F. H. Brain.
- †**Frapwell, Stanley Arthur**, B.Sc. (Lond.), A.R.I.C. British. 11, The Lawns, Hatch End. Chemist, Air Control Installations, Ltd., Victoria Road, Ruislip. *Signed by* : W. H. J. Vernon, Frank Wormwell, N. E. Topp.
- \***Frenkel, Helen**. Part I, Natural Sciences Tripos. British. 4b, Lyndhurst Gardens, N.W. 3. Student at Cambridge, reading for Part II of Natural Sciences Tripos. *Signed by* : F. G. Mann, D. R. Lyon, B. A. Kilby.
- \***Gammon, Robert Howard**. London Higher School Certificate with Inter. B.Sc. British. 2, Fernlea Gardens, Bassett, Southampton. Student for B.Sc. University College, Southampton. *Signed by* : S. H. Harper, H. W. B. Reed, Ishbel G. M. Campbell.
- †**Gibson, Neville Allan**, M.Sc. (Sydney). British. 217, Parramatta Road, Haberfield, Sydney, N.S.W., Australia. Assistant Research Officer, Council for Scientific and Industrial Research (Division of Industrial Chemistry). *Signed by* : Thomas Iredale, D. J. Brown, R. J. Meakins.
- †**Glover, Geoffrey Frederick**, B.Sc. (Lond.). British. Thanet, Studley Green, Nr. Stokenchurch. Research Chemist. *Signed by* : Herbert F. Rance, J. Stewart Cook, Thomas McLachlan.
- \***Grimmett, George Victor Hancock**, London Matriculation, Inter. B.Sc. British. Connaught Hall, Swaythling, Southampton. Student at University College, Southampton, reading for special Chemistry B.Sc. degree. *Signed by* : S. H. Harper, H. W. B. Reed, Ishbel G. M. Campbell.

- (a) **Gruschka, John**, B.Sc.Tech.Hons. (Manc.). Czechoslovakian. Shenstone House, Upper Park Road, Salford, 7. Works Chemist, British Oil and Cake Mills, Ltd., Trafford Park, Manchester. *Signed by* : A. Burawoy, R. F. Garwood, F. H. Montgomery.
- \* **Gunn, Eric Joseph**. Matriculation. British. 88, Tosson Terrace, Heaton, Newcastle-on-Tyne, 8. Reading for External B.Pharm. degree (London). *Signed by* : W. S. Patterson, R. Bell, J. H. Wilkinson.
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- \* **Hine, Alan Rowland**, Inter.B.Sc. British. Windmill House, Backley, New Milton. Studying for B.Sc. Special Degree in Chemistry at University College, Southampton. *Signed by* : S. H. Harper, H. W. B. Reed, Ishbel G. M. Campbell.
- Hodge, Henry Allen**. British. Hynings, Bow Green Road, Bowdon. Technical Representative, Chemist and Engineer, The Feedwater Specialists Co. (Liverpool Borax Co., Ltd.), Hydrological Chemists, Steam Boiler Consultants, St. Pauls Square, Liverpool, 3. *Signed by* : W. Murray, J. S. Merry, W. M. Robertson.
- † **Jenkinson, George Robert**, A.R.I.C. British. 57, Exeter Grove, Hull. Chemist in charge of the acetic acid section of the British Industrial Solvents, Ltd., at their Saltend Works near Hull. *Signed by* : A. P. Backshell, E. E. Connolly, R. H. Williams.
- † **Jones, Geoffrey Kempson**, A.R.I.C. British. 28, St. Margaret's Court, The Barons, East Twickenham. Assistant Chemist, Messrs. William R. Warner & Co., Ltd., Power Road, Chiswick, W. 4. *Signed by* : R. W. Hodgkinson, H. Wells, Maurice H. Pearson.
- \* **Jones, Shirley Wickham**. Natural Sciences Tripos Part I. British. 9, Whitworth Road, South Norwood, S.E. 25. Student reading for Part II Natural Sciences Tripos in Chemistry, Cambridge University. *Signed by* : F. G. Mann, D. R. Lyon, B. Lythgoe.
- \* **Kidd, Denis Alfred Alexander**. British. 37, The Drive, Bexley. Student reading for B.A.Hons. in Chemistry at Oxford University. *Signed by* : Ronald P. Bell, J. W. Linnett, T. W. J. Taylor.
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- \* **Littlewood, Anthony Duncan**, B.Sc.Hons. (Lond.). English. 9, Fenstanton Avenue, North Finchley, N. 12. Research Student at Queen Mary College. *Signed by* : J. R. Partington, D. C. Jones, B. E. Cross.
- Maccoll, Allan**, M.Sc. (Sydney). British. Sir William Ramsay and Ralph Forster Laboratories, University College, Gower Street, W.C. 1. I.C.I. Fellowship, University of London. *Signed by* : C. K. Ingold, J. N. E. Day, S. Sugden.
- (a) **Melisaac, William Mallinson**, Inter. B.Sc. (Lond.). British. 98, Holwell Road, Welwyn Garden City. Analytical Chemist for Roche Products, Ltd. Second year final B.Sc. student (part-time) Northern Polytechnic. *Signed by* : W. Gerrard, F. P. Handisyde, N. C. Hindley.
- Meadows, Geoffrey Walsh**, M.Sc. (Manc.). British. 20, Vernon Street, Bury. Assistant Lecturer in Chemistry at the University of Manchester. *Signed by* : A. E. Gillam, Dennis Holden, A. G. Evans.
- Munro, John**, B.Sc. and Ph.D. (Edin.). British. 85, Meadowfoot Road, West Kilbride. Research Chemist. *Signed by* : E. G. V. Percival, Neil Campbell, Christina C. Miller.
- \* **Murfit, Kenneth Cecil**. British. 56, Carisbrook Close, Enfield. Student for B.Sc. Special Chemistry at University College, Southampton. *Signed by* : S. H. Harper, H. W. B. Reed, Ishbel G. M. Campbell.
- † **Oglethorpe, Charles Christopher**, B.Sc. (Lond.), A.R.I.C. British. 40, Harwood Avenue, Hornchurch. Research Chemist, Ship Carbon Co. of Gt. Britain, Ltd., Grove Road, Chadwell Heath. *Signed by* : G. W. Whitfield, R. W. West, H. J. S. King.
- \* **Palmer, Jean Margaret**. British. 12, Burgess Road, Bassett, Southampton. B.Sc. Special Chemistry Student at University College, Southampton. *Signed by* : S. H. Harper, H. W. B. Reed, Ishbel G. M. Campbell.
- † **Parsons, George Frederick Perry**, B.A.Hons. (Oxon.). British. 31, Malden Road, Watford. Technical Chemist, Alfoc Water Treatment Service. *Signed by* : N. V. Sidgwick, L. E. Sutton, J. B. Lewis.
- ‡ **Raine, Alfred Holgate**, B.Sc. (Leeds). British. 2, Wynford Mount, Leeds, 6. Chemist, Research Department, Brotherton & Co., Ltd., City Chambers, Leeds, 1. *Signed by* : R. Lessing, Robt. G. W. Eadie, W. Cule Davies.
- † **Raistrick, Bernard**, B.Sc. and Ph.D. (Lond.), A.R.I.C. British. 64, Wolverhampton Road South, Harborne, Birmingham, 32. Research Chemist. *Signed by* : C. K. Foster, H. Coates, K. E. Weale.
- \* **Rosenfelder, Walter Jacob**. Formerly German. Trinity College, Cambridge. Student for Natural Science Tripos Part II (Chemistry). *Signed by* : F. G. Mann, D. R. Lyon, J. Baddiley.
- (a) **Rowe, David John Michel**, Inter.B.Sc. British. 42, Hill Barton Road, Exeter. Student, University College, Exeter. *Signed by* : H. T. S. Britton, S. J. Gregg, R. King.
- Boy, Alexander Bilton**. Scottish. 293, Lanark Road, Kingsknowe, Edinburgh, 11. Chemistry Student, third year, Edinburgh University. *Signed by* : Neil Campbell, E. G. V. Percival, Christina C. Miller.
- \* **Rutherford, Olga**. Natural Sciences Tripos Part I. British. 19, Thorneyburn Avenue, South Wellfields, Shiremoor. Student reading Part II (Chemistry) of the Natural Sciences Tripos, Cambridge University. *Signed by* : F. G. Mann, D. R. Lyon, M. L. Tomlinson.
- † **Santi, Aldo**, B.Sc.Hons. (Glas.), unclassified due to being called away for War Service. British. 193, Main Street, Larbert. Assistant Chemist. *Signed by* : S. Horwood Tucker, J. W. Cook, C. Buchanan.
- \* **Sharpe, Alan George**, B.A. (Cantab.). British. Jesus College, Cambridge. Student (returned to Cambridge from Ministry of Supply to sit for Part II Natural Sciences Tripos in Chemistry). *Signed by* : F. G. Mann, F. G. Lyon, J. Baddiley.

- †**Southam, William Dring**, B.Sc. (Sydney). British. 61, Amherst Street, North Sydney, N.S.W. Industrial Chemist at Communication Engineering Pty., Ltd., 55, Carter Street, Cammerary, N.S.W. Signed by : J. C. Earl, Thomas Iredale, D. J. Brown.
- \***Sparks, Anthony**, Inter.B.Sc. British. Connaught Hall, Wessex Lane, Swaythling, Southampton. Student at University College, Southampton, reading for B.Sc. Special Chemistry. Signed by : S. H. Harper, H. W. B. Reed, Ishbel G. M. Campbell.
- (b)**Thain, Eric Malcolm**, B.Sc. (Lond.). British. Algoma, Worrin Road, Shenfield. Analytical Chemist at Messrs. Parry & Ferguson, 15, Borough High Street, S.E. 1. Signed by : J. Kenyon, George W. Ferguson, A. M. Taylor.
- \***Thomas, Reginald William**. London Higher School Certificate. British. 198, High Street, Lewes. Student for B.Sc. Special Chemistry at University College, Southampton. Signed by : S. H. Harper, H. W. B. Reed, Ishbel G. M. Campbell.
- Tweddell, George Henry**, B.Sc. (Lond.). English. Fairholme, Church Road, Warlingham. Lecturer in Chemistry, Croydon Polytechnic. Signed by : A. Harvey, J. Kenyon, J. W. Smith.
- Uri, Norbert**, M.Sc. and Ph.D. (Hebrew University, Jerusalem). Palestinian. c/o Halaby, Nahlat Ahim, Jerusalem. Junior Assistant, Department of Inorganic and Analytical Chemistry, The Hebrew University, Jerusalem. Signed by : H. J. G. Hayman, L. Haskelberg, Harold Davies.
- †**Wade, Arthur Philip**, B.Sc. (L'pool), A.R.I.C. British. 7, Fairfield Avenue, Hendon, N.W. 4. Biochemist, The British Drug Houses, Ltd., Graham Street, City Road, N. 1. Signed by : T. F. Dixon, P. G. Marshall, E. J. Chappel.
- \***Wallwork, Stephen Collier**. British. Lynwood, Richmond Street, Ashton-under-Lyne. Student reading for B.A.Hons. Chemistry at Oxford. Signed by : Ronald P. Bell, J. W. Linnett, R. Hulme.
- Warren, Norman Frank**, Inter.B.Sc. (Lond.). British. 2, Wallace Avenue, Prittlewell, nr. Westcliff-on-Sea. Biochemist, Biochemical Department, The British Drug Houses, Ltd., Graham Street, City Road, N. 1. Signed by : P. G. Marshall, H. L. Peerman, O. Stephenson.
- †**Watson, Gerald Hugh**, B.Sc. and Ph.D. (Lond.), A.R.C.S., D.I.C. British. 271, Court Road, Mottingham, S.E. 9. Research Chemist, South Metropolitan Gas Company, S.E. 15. Signed by : E. A. Jenkinson, J. R. Dewhurst, H. Stanier.
- †**Williams, Norman Edgar**, B.Sc.Hons. and Ph.D. (Lond.), A.R.I.C. British. 29, Queensbury Avenue, Bromborough. Research Chemist. Signed by : Alan D. Scott, R. F. Hunter, G. P. Gibson.

#### UNDER SPECIAL PROVISION APPERTAINING TO CANDIDATES RESIDENT ABROAD.

- †**Addinall, Carl Rupert**, B.Sc., M.A., and Ph.D. (Harvard). English. Merck & Co., Inc., Rahway, New Jersey. Director of Technical Information, Merck & Co., Inc. Signed by : Joseph Rosin.
- †**Ahad, Abdul**, M.Sc. and Ph.D. (Punjab). Indian. Fazli-Omar Research Institute, Qadian, Punjab. Director of Research, Professor of Chemistry and Head of Science Department, T.I. College, Qadian. Signed by : S. S. Bhatnagar.
- Blumenthal, Armin**, Ph.C. (Frankfurt-on-Main). German refugee. P.O. Box 9268, Johannesburg, S. Africa. South African Druggists, Ltd., Johannesburg. Signed by : John Christie.
- Fulmer, Jarvis Moisson**, B.S. (Washington), M.S. (Minnesota), Ph.D. (Colorado). U.S.A. 612, Highwood Avenue, Greencastle, Indiana, U.S.A. Professor of Chemistry, Head of Chemistry Department. Signed by : Jesse L. Riebsomer.
- †**Givaudan, Andre**, Ing.Chem. French. c/o L. Givaudan & Cie, Vernier, Genevre. Manager. Signed by : J. L. Simonsen.
- (a)**Moyade, Hemant Kumar**, M.Sc. (Agra), B.Sc. (Benares). Indian. Mandleshwar, Holkar State, C. I. India. Student in final M.Sc.Tech. with Industrial Chemistry at College of Technology, Benares Hindu University. Signed by : S. S. Bhatnagar.
- †**Rajagopalan, Srinivasa**, D.Sc. (Madras), A.I.I.Sc., A.R.I.C. British Indian. Jaya, Greenways Road, Adyar P.O., Madras. Research Chemist, Indian Research Fund Association of the Medical Research Department, Government of India. Signed by : T. R. Seshadri, B. B. Dey.
- Suter, Chester Marle**, A.B. (Southwestern College), M.S. and Ph.D. (Kansas), Metz Fellow, Yale University (1927-28). American. 32, Tudor Road, Albany 3, New York. Director of Chemical Research for Winthrop Chemical Co., Inc., Rensselaer, New York. Signed by : Johannes S. Buck.
- †**Vagtberg, Harold**, B.S. (Illinois), M.S. (Armour Institute of Technology). American. 4049, Pennsylvania Avenue, Kansas City 2, Missouri. President and Director of Midwest Research Institute, U.S.A. Signed by : Foster Dee Snell, Ralph L. Evans.

• Reduced annual subscription.

† Three-body.

‡ Two-body.

(a) Junior Membership two-body.

(b) Junior Membership three-body.

#### PAPERS RECEIVED

List of papers received between November 1st and December 6th, 1945. (This list includes a number of papers submitted during the war and for which permission to publish has now been granted. It does not include the titles of papers which have been read at a Scientific Meeting or which have appeared in the *Journal*.)

"Equilibria in ternary systems containing oxalates." By L. M. HILL, T. P. GOULDEN, and E. HATTON.  
 "The oxidation of diphenylamine and of its *N*-derivatives. Part I. Oxidation of  $>N\cdot CH_2R$  to  $>N\cdot CO\cdot R$ ." By J. FORREST, D. A. LIDDELL, and S. H. TUCKER.

- "Chemical investigations of the insecticide 'DDT' and its analogues. Part II. Symmetrical analogues." By O. STEPHENSON and W. A. WATERS.
- "The diethylaminoalkylation of 9-amino-*p*-phenanthroline." By R. G. JACOMB and W. O. KERMACK.
- "Synthetic antimalarials. Part I. Some derivatives of arylamino and aryl substituted pyrimidines." By F. H. S. CURD and F. L. ROSE.
- "Synthetic antimalarials. Part II. 2-Substituted anilino-4-basic alkylamino-6-methyl pyrimidines." By F. H. S. CURD, (MISS) M. I. DAVIS, and F. L. ROSE.
- "Synthetic antimalarials. Part III. Some derivatives of mono- and di-alkylpyrimidines." By R. HULL, (MISS) B. J. LOVELL, H. T. OPENSHAW, L. C. PAYMAN, and A. R. TODD.
- "Synthetic antimalarials. Part IV. 2-Phenylguanidino-4-basickylamino-6-methylpyrimidines." By F. H. S. CURD and F. L. ROSE.
- "Synthetic antimalarials. Part V. 2-Naphthylamino-4-basickylamino-6-methylpyrimidines." By F. H. S. CURD, C. G. RAISON, and F. L. ROSE.
- "Synthetic antimalarials. Part VI. Some 4-arylamino-2-basic alkylamino-6-methylpyrimidines." By F. H. S. CURD, (MISS) M. I. DAVIS, E. C. OWEN, F. L. ROSE, and G. A. P. TUEY.
- "Synthetic antimalarials. Part VII. 2-Arylamino-4-dialkylamino alkylamino pyrimidines. Variation of substituents in the 5- and 6-positions." By F. H. S. CURD, (MISS) D. N. RICHARDSON, and F. L. ROSE.
- "The sydnones. A new class of compounds containing two adjacent nitrogen atoms." By R. A. EADE and J. C. EARL.
- "Note on the preparation of halogenated methoxy benzaldehyde and demethylation of the corresponding benzil derivatives." By H. SHAPIRO and K. A. SMITH.
- "Synthesis of acridines. Part I." By A. A. GOLDBERG and W. KELLY.
- "Trityl derivatives of  $\gamma$ -xylose." By R. J. MCILROY.
- "New syntheses of heterocyclic compounds. Part V. The Schmidt rearrangement of 1:3-dimethyl-2-azafluorenone." By V. A. PETROW.
- "The chloroacetylation of guaiacol." By A. A. GOLDBERG and H. S. TURNER.
- "New potential chemotherapeutic agents. Part IV. Derivatives of benzimidazole." By F. E. KING, R. J. S. BEER, and S. G. WALEY.
- "Amidines. Part I. Preparation of amidines from nitriles." By P. OXLEY and W. F. SHORT.
- "The preparation of styrene chlorhydrin." By W. E. HANBY and H. N. RYDON.
- "Stereochemistry of the benzidine transformation." By D. LI. HAMMICK and S. F. MASON.
- "The kinetics of anionotropic rearrangement. Part V. Oxotropic formation of the styrene system." By E. A. BRAUDE, E. R. H. JONES, and E. S. STERN.
- "The determination of 'active' hydrogen." By E. A. BRAUDE and E. S. STERN.
- "The reactivity of  $\gamma$ -pyrone quaternary salts." By R. M. ANKER and A. H. COOK.
- "Attempts to find new antimalarials. Part XXIII. Derivatives of 3:4:2':3'-pyridoacridine and 1:2:2':3'-pyridoacridine." By J. DOBSON and W. O. KERMACK.
- "The anhydrides of hexahydric alcohols. Part II. Derivatives of 1:2-5:6-dianhydro mannitol." By L. F. WIGGINS.
- "The anhydrides of hexahydric alcohols. Part III. Derivatives of 5:6-anhydro mannitol and sorbitol." By L. F. WIGGINS.
- "The anhydrides of hexahydric alcohols. Part IV. The constitution of dianhydro sorbitol." By R. MONTGOMERY and L. F. WIGGINS.
- "The anhydrides of hexahydric alcohols. Part V. 2:5-Diamino 1:4-3:6-dianhydro mannitol and sorbitol and their sulphanilamide derivatives." By R. MONTGOMERY and L. F. WIGGINS.
- "Some derivatives of simple carbohydrates containing unsaturated substituents." By W. N. HAWORTH, (MRS.) H. GREGORY, and L. F. WIGGINS.
- "The synthesis of antimalarial compounds related to niquidine. Part I. Model experiments on the synthesis of quinolyl carbinols." By T. S. WORK.
- "The self-diffusion of lead in lead sulphide." By J. S. ANDERSON and J. R. RICHARDS.
- "The micro cell for polarography and amperometric titration." By J. T. STOCK.
- "The synthesis of  $\alpha$ -amino-acids. Part II. *dl*-Cysteine and *dl*-cystine." By E. BOOTH, V. C. E. BURNOP, W. E. JONES, and R. C. G. MOGGRIDGE.
- "Chloromethylation of 1- and 2-chloronaphthalene." By D. H. S. HORN and F. L. WARREN.
- "The preparation of an active absorbent of hydrogen sulphide from waste oxide of iron." By H. K. WHALLEY.
- "The properties of freshly formed surfaces. Part VI. The influence of temperature and concentration on the dynamic and static surface tensions of aqueous decioic acid solutions." By C. C. ADDISON.
- "The structure of pyrethrolone and related compounds. Part V." By T. F. WEST.

- "Absorption spectra of acridines. Part IV. Steric interference with ionisation." By D. P. CRAIG.
- "Acid catalysis in the formation of chloroamides from hypochlorous acid. *N*-Chlorination by hypochlorite ions and by acyl hypochlorites." By (Miss) R. P. MAUGER and F. G. SOPER.
- "Physical and chemical properties of organo-metallic compounds. Part I. The vapour pressures and freezing points of simple metal alkyls of groups II, III, and V." By C. H. BAMFORD, D. L. LEVI, and D. M. NEWITT.
- "Physical and chemical properties of organo-metallic compounds. Part II. The oxidation of zinc alkyls." By C. H. BAMFORD and D. M. NEWITT.
- "Physical and chemical properties of organo-metallic compounds. Part III. The oxidation of boron and antimony alkyls." By C. H. BAMFORD and D. M. NEWITT.
- "Amorphous carbon." By J. GIBSON, M. HOLOHAN, and H. L. RILEY.
- "Studies in the polyene series. Part XXIII. Condensation of the C<sub>14</sub> aldehyde [3-(2':6':6'-trimethylcyclohexenyl)-1-methyl-crotonaldehyde] with 1-hexyne and 2-methoxyhex-3-on-5-yne." By J. CYMERMAN, I. M. HEILBRON, E. R. H. JONES, and R. N. LACEY.
- "The preparation and bacteriostatic properties of some amines derived from citral." By A. G. CALDWELL and E. R. H. JONES.
- "Reduction by dissolving metals. Part III." By A. J. BIRCH.
- "The volumetric determination of nitroguanidine." By T. L. COTTRELL, C. A. MACINNES, and E. M. PATTERSON.
- "Compound related to penicillic acid. Part I.  $\beta$ -Propionylacrylic ester and its formylation product." By J. S. MOFFATT, G. NEWBERY, and W. WEBSTER.
- "The synthesis of analgesic substances." By J. A. BARLTROP.
- "Synthesis of sulphanilylguanidine." By S. BIRTWELL, E. HOWARTH, F. L. ROSE, G. SWAIN, and C. H. VASEY.
- "The synthesis of antimalarial compounds related to niquidine. Part II. Synthesis of a dihydro- $\alpha$ -niquidine." By T. S. WORK.

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