

The Faraday Society

NOTICE is hereby given that the Annual General Meeting of the Society will be held at the University of Liverpool, on the 6th September, 1961 at 9.00 a.m.

ANNUAL GENERAL MEETING

Agenda

1. To confirm the minutes of the 54th Annual Meeting.
 2. To receive the Annual Report and Statement of Accounts, together with the Report of the Auditors, for the year 1960.
 3. To elect the Council for the session to take office for 1962 as from 1st January, 1962.
 4. To re-elect the Auditors, if thought fit, for the year 1962.
- The Council for the year 1961 were as follows :

President

† SIR CYRIL HINSHELWOOD, O.M., D.SC., F.R.S.

Vice-Presidents who have held the Office of President

PROF. SIR HUGH TAYLOR, K.B.E., D.SC., LL.D., F.R.S.

PROF. R. G. W. NORRISH, SC.D., F.R.I.C., F.R.S.

R. P. BELL, M.A., F.R.S.

E. W. R. STEACIE, O.B.E., D.SC., LL.D., F.R.S.

SIR HARRY MELVILLE, K.C.B., D.SC., F.R.S.

Vice-Presidents

PROF. C. E. H. BAWN, C.B.E., PH.D., F.R.S. T. M. SUGDEN, M.A., PH.D.

*PROF. D. H. EVERETT, M.B.E., M.A., D.SC. L. E. SUTTON, M.A., D.PHIL., F.R.S.

*PROF. G. GEE, C.B.E., SC.D., F.R.S. B. TOPLEY, M.A., F.R.I.C.

*J. W. LINNETT, M.A., D.PHIL., F.R.S.

Hon. Treasurer

FORREST F. MUSGRAVE, B.A., D.PHIL.

Ordinary Members of Council

PROF. J. A. V. BUTLER, D.SC., F.R.I.C., J. A. POPE, M.A., PH.D.

F.R.S.

*R. SPENCE, C.B., D.SC., F.R.I.C., F.R.S.

*MANSEL DAVIES, M.SC., PH.D., SC.D.

*PROF. D. W. G. STYLE, PH.D.

PROF. D. D. ELEY, M.SC., PH.D.

*PROF. A. R. UBBELOHDE, M.A., D.SC.,

PROF. F. W. JOST, DR. SC. NAT.

F.R.S.

*PROF. H. C. LONGUET-HIGGINS, M.A., PROF. A. D. WALSH, M.A., PH.D.

D.PHIL., F.R.S.

* Retire and are not eligible for re-election for the same office.

† Retires but is eligible for re-election.

By Order of the Council,

F. C. TOMPKINS,
Secretary

6 GRAY'S INN SQUARE,
LONDON, W.C.1
TEL.: CHANCERY 8101

REPORT OF COUNCIL TO BE PRESENTED AT THE ANNUAL GENERAL MEETING

THE Council have pleasure in presenting the Fifty-Fourth Report, that for the year 1960.

GENERAL DISCUSSIONS.—Two General Discussions were held during the year. The first, entitled “Oxidation-Reduction Reactions in Ionizing Solvents”, was held at King’s College, Newcastle-upon-Tyne on the 11th, 12th and 13th April, 1960. The President, Sir Harry Melville, K.C.B., D.S.C., F.R.S., was in the Chair and about 200 members and visitors were present, including 24 from overseas. The proceedings are contained in the DISCUSSIONS OF THE FARADAY SOCIETY, 1960, 29.

The second meeting, “The Physical Chemistry of Aerosols”, was held at Bristol University on the 13th, 14th and 15th September, 1960. The President, Sir Harry Melville, was in the Chair, and over 100 members and guests were present, including 13 from overseas. The Proceedings are contained in the DISCUSSIONS OF THE FARADAY SOCIETY, 1960, 30 (in press).

INFORMAL MEETINGS.—In addition to the General Discussions, four informal meetings were held during the year. They were: “Nuclear and Radio-Chemistry” (Londonderry Laboratory for Radio-Chemistry, University of Durham, Durham, 7th and 8th April, 1960), “The Structure of Cytoplasmic Particles and their Role in Protein Synthesis” (University of Reading, 28th and 29th March, 1960), “Physico-chemical, Biological and Applied Aspects of Autoxidation” (Liverpool University, 4th and 5th April, 1960), and “Ultracentrifugation of Biological Macromolecules” (Birmingham University, 14th and 15th September, 1960). All the meetings were successful and were well attended.

PUBLICATIONS.—The TRANSACTIONS were published as usual in 12 monthly parts and in addition the following Discussions: “Crystal Imperfections and the Chemical Reactivity of Solids” (no. 28) and “Oxidation-Reduction Reactions in Ionizing Solvents” (no. 29). The following table shows the material published during the year and corresponding figures for the years 1958 and 1959.

ANNUAL REPORT

3

PAPERS PUBLISHED—	1960	1959	1958
Transactions (monthly issues)	219	281	236

Discussions—

“Crystal Imperfections and the Chemical Re-activity of Solids” (no. 28)	24		
“Oxidation-Reduction Reactions in Ionizing Solvents” (no. 29)	23		
	47	49	45

PAGES PRINTED—

Transactions—			
General Papers	1785	2188	1856
Plates	13	13	23
Reviews of Books	78	42	59
Minutes of Annual General Meetings, Indexes, etc.	38	39	35
Reports of Informal Meetings	—	14	9
	1914	2296	1982

DISCUSSIONS—

“Crystal Imperfections and the Chemical Re-activity of Solids”	254		
“Oxidation Reduction Reactions in Ionizing Solvents”	264		
	518	468	473
	2432	2764	2455

The thanks of the Society are especially due to all those who have refereed papers despite their many other preoccupations, and to all those responsible for publication.

The arrangements for co-operation with the American Chemical Society in the production of the *Journal of Physical Chemistry* have continued to work smoothly.

REPRINTING.—During the year Butterworths Scientific Publications issued a reprint of “Electrode Processes” (Discussion No. 1).

THE BOURKE LECTURES.—The first series of Lectures for 1960 was given by Dr. H. J. Bernstein (National Research Council of Canada) who lectured on “The Effect of Hybridization, Conjugation, and Hyperconjugation on Bond Distances and Energies in Hydrocarbons” (University of St. Andrews, Queen’s College, Dundee, 26th April, and University College, London, 29th April), and “Photo-electrically Recorded Raman Spectra of Some Gases” (University of Oxford, 2nd May). The second series was given by Prof. Anton Peterlin (Technischen Hochschule, Munich), as follows: “The Thermodynamic Stability of Polymer Crystals” (Birmingham University, 24th October, and Liverpool University, 28th October), “Particle Size and Shape Determinations from Rheological Data” (Nottingham University, 25th October).

ANNUAL REPORT

MEMBERSHIP.—The fully paid-up membership at the end of 1960 was as follows :
Total membership : 2389 (as compared with 2357 at the end of 1959).

United Kingdom—		
Full Members	1043	
Junior Members	216	
	—	1259
Overseas—		
Full Members	1061	
Junior Members	69	
	—	1130
		—
		2389
		—

There were 153 Members elected during the year (including 52 Junior Members); 106 Members resigned.

The Council reports with regret the death of the following Members : Prof. N. Bauer, Col. N. T. Belaiew, Dr. R. E. Dodd, Dr. E. Ellenbogen, Dr. Marion Eppley, Dr. R. H. Farmer, Mr. A. W. Faucher, Dr. C. G. Grimes, Prof. C. A. Knorr, Dr. J. Y. Macdonald, Dr. R. K. Schofield, Dr. R. Springer and Mr. A. E. Wallis.

REPRESENTATIVES ON OTHER BODIES FOR 1960 :

Royal Society—

National Committee for Chemistry	Prof. F. S. Dainton
*National Committee for Physics	Prof. E. A. Guggenheim
National Committee for Biophysics	Prof. J. A. V. Butler
Symbols Committee	Prof. E. A. Guggenheim and Prof. F. C. Tompkins

* The Society's representation was terminated at the end of 1960.

Chemical Council	Prof. A. R. Ubbelohde
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Chemical Society—

Joint Library Committee	Prof. R. M. Barrer
Infra-Red Absorption Data Committee	Dr. N. Sheppard
Colloid and Biophysics Committee (now dissolved)	Prof. J. A. V. Butler (<i>Chairman</i>)
	Prof. D. D. Eley
	Dr. J. A. Kitchener
	Dr. A. R. Peacocke
Journal of Physical Chemistry—Editorial Board	Prof. C. E. H. Bawn
	Prof. R. G. W. Norrish
	Prof. A. R. Ubbelohde
	Sir Gordon Sutherland
Parliamentary and Scientific Committee	Prof. A. R. Ubbelohde
	Sir Owen Wansbrough-Jones

British Standards Institution—

BSM/1	Prof. A. R. Ubbelohde
BSM/2	Prof. E. A. Guggenheim
pH Meters	Dr. J. E. Prue

ANNUAL REPORT

5

MARLOW MEDAL.—The Marlow Medal and Prize for 1961 have been awarded to Prof. John Stanley Griffith of the University of Pennsylvania for his researches on ions of the transition metals.

HONORARY LIFE MEMBERSHIP.—At the first Council meeting held in 1961, Sir Charles Goodeve was elected to Honorary Life Membership of the Society in recognition of his services to the Society and to Physical Chemistry.

BRITISH BIOPHYSICAL SOCIETY.—The Colloid and Biophysics Committee, having increased its activities greatly in the fields of biophysics and biophysical chemistry, it was decided to dissolve the Committee and to form a new Society (known as the British Biophysical Society), whose functions would be to continue and extend the work of the biophysical section of the Colloid and Biophysics Committee. Your Council gave its blessing and a grant of £1,000 towards the formation of the new Society.

FINANCE.—The Society had a surplus of income over expenditure in 1960 of £1,736. The amount received from Members' subscriptions was slightly less than the 1959 figure but there were increases from non-membership subscriptions and the sale of the *TRANSACTIONS*, *DISCUSSIONS* and *REPRINTS*.

The market value of investments was £51,457 at 31st December, 1960, the corresponding 1959 figure being £46,875. Investment income for 1960 was about £1,825, nearly £500 greater than for 1959. The policy of the Society has therefore been successful in achieving a higher rate of return on its investments although capital appreciation possibilities have not been neglected. Some £2,500 profit was made on the sale of investments, and with Lazard Brothers' continuing invaluable advice, a number of changes were made in the Society's portfolio.

The first £400 of a £1,000 Grant was made during 1960 to the new Biophysical group which separated from the Society in order to conduct its own affairs, and the balance of £600 will be paid this year. The premises at Gray's Inn Square will have some new furnishings, and it is expected that the 1961 accounts will be roughly in balance with no substantial surplus or deficit.

The Chemical Council have asked for a longer range forecast of possible assistance which the Society might require in the years ahead and Council will give this careful consideration.

Dr. G. H. Twigg has been appointed to the Finance Committee following the resignation of Sir Charles Goodeve.

The Faraday Society

INCOME AND EXPENDITURE ACCOUNT FOR THE YEAR ENDED 31st DECEMBER, 1960

1959	EXPENDITURE	1959
To Printing and Paper :		
£12,918	<i>Transactions</i>	£11,680 5 5
3,116	<i>Discussions</i>	3,261 5 7
1,466	<i>Reprints</i>	1,597 16 4
325	<i>Advance Proofs</i>	336 11 3
120	<i>General Printing</i>	127 6 2
2,792	<i>Paper for Transactions and Discussions</i>	3,607 9 1
453	<i>Wrappers</i>	—
21,190		20,610 13 10
1,038	<i>Less Discounts</i>	1,032 5 10
20,152		£19,578 8 0
1,234	„ <i>Postages on Transactions and Discussions</i>	1,107 7 3
2,706	„ <i>Administration and Editorial Expenses, and Maintenance of Premises—</i>	
168	<i>Salaries</i>	2,834 9 11
46	<i>Stationery</i>	264 17 0
56	<i>Repairs and Renewals</i>	4 5 7
293	<i>Telephone</i>	48 6 4
47	<i>Postage</i>	253 0 8
11	<i>Audit</i>	47 5 0
119	<i>Bank Charges</i>	88 6 0
67	<i>Travelling Expenses</i>	223 0 8
275	<i>Office General Expenses</i>	84 3 5
102	<i>Rent</i>	300 0 0
7	<i>Rates</i>	107 4 9
41	<i>Water</i>	7 4 6
82	<i>Electricity and Gas</i>	70 17 0
31	<i>Cleaning</i>	68 16 4
83	<i>Insurance</i>	25 8 9
4,134	<i>Depreciation</i>	92 7 10
108	„ <i>Advertising</i>	4,519 13 9
2,636	„ <i>Distribution Commission and Expenses</i>	91 0 0
74	„ <i>Expenses in connection with Meetings (balance)</i>	2,923 4 1
514	„ <i>Donations and Subscriptions—</i>	242 19 8
26	<i>Chemical Society Library</i>	564 2 5
—	<i>Parliamentary and Scientific Committee</i>	26 5 0
70	<i>British Biophysical Society</i>	400 0 0
41	„ <i>Marlow Award and Medal</i>	990 7 5
518	„ <i>Legal Fees and Professional charges</i>	15 15 0
	„ <i>Balance being excess of income over expenditure for the year</i>	1,736 10 0
£29,507		£31,205 5 2

1959	INCOME	1959
By Members' Subscriptions—		
£10,101	<i>Less Subscriptions written off</i>	£9,841 13 4
38	„ <i>Entrance Fees</i>	49 15 2
13,606	„ <i>Sales—</i>	
837	<i>Annual Non-membership Subscriptions</i>	14,278 10 1
1,548	<i>Transactions</i>	1,275 8 6
1,468	<i>Discussions</i>	1,799 4 1
257	<i>Reprints</i>	1,764 10 9
£17,716	<i>Advance Proofs</i>	139 11 7
466	„ <i>Royalties in connection with copyrights</i>	19,257 5 0
32	„ <i>Advertisements in Transactions</i>	239 5 2
747	„ <i>Interest and Dividends</i>	220 12 3
407	„ <i>Income Tax recoverable</i>	1,087 3 2
		509 11 1
£29,507		£31,205 5 2

Non-Recurrent Items

1,508	To Grants and expenses incurred in connection with Canadian Discussion	—
1,726	„ Reserve for cost of publication of Canadian Discussion	—
—	„ Balance transferred to Capital Account	3,462 15 9
£3,234		£3,462 15 9

£518	By Balance brought down	1,736 10 0
750	„ Grants from Royal Society and Imperial Chemical Industries Ltd.	—
1,726	„ Canadian Discussion (contribution to cost of publication)	—
—	„ Canadian Discussion Reserve written back	1,726 5 9
240	„ Balance transferred to Capital Account	—
£3,234		£3,462 15 9

THE FARADAY SOCIETY

BALANCE SHEET 31st DECEMBER, 1960

	LIABILITIES		ASSETS	
1959		1958		
	Capital Account—		Investments at cost—	
	<i>As per last Balance Sheet</i>	\$22,402 18 3	British Government Securities	\$11,766 9 6
	<i>Add: Profit on Sale of Investments</i>	2,499 8 0	British Industrial Stocks and Shares	22,084 0 8
		<u>\$24,902 6 3</u>		<u>\$33,850 10 2</u>
	<i>Plus:</i> Income and Expenditure Account (balance)	3,462 15 9		
<u>\$22,403</u>		<u>\$28,365 2 0</u>		
6,342	Sundry Creditors	\$5,593 12 0	Office Furniture and Equipment, at cost less depreciation	748 19 4
2,521	Subscriptions paid in Advance	3,027 12 5	Stock—Paper,	1,110 5 6
1,726	Reserve for cost of publication of Canadian Discussion	— 7 2	Sundry Debtors— Outstanding Subscriptions	206 10 0
9,445	Publishing Subscriptions in Advance	9,953 7 2	Allied Societies, etc.,	1,312 12 10
1,467	Balance at Bank—overdrawn	18,574 11 7	Amounts due from Printers	7,040 7 10
			Income Tax Recoverable	509 11 1
				<u>.</u>
			Balance at Bank, in hand, and in transit	9,069 1 9
				2,160 16 10
	"Spiers Memorial Fund"—			
	Capital Fund as per last Balance Sheet	378 9 9	Investments	297 12 3
	Income and Expenditure Account (balance)	113 15 6	Balance at Bank	190 18 4
483		<u>492 5 3</u>	Income Tax Recoverable	3 14 8
				<u>.</u>
	"The Bourke Fund"—			
	Capital Fund as per last Balance Sheet	3,625 1 3	Investments	4,175 16 0
	Income and Expenditure Account (balance)	734 2 6	Balance at Bank	109 2 5
4,312		<u>4,359 3 9</u>	Income Tax Recoverable	74 5 4
				<u>.</u>
				4,359 3 9

We have examined the above Balance Sheet and annexed Income and Expenditure Account, and have obtained all the information which we consider necessary for our audit. In our opinion these accounts show a true and fair view of the Society's affairs as at 31st December, 1960, and of the Income and Expenditure for the year ended on that date.

SPENCER HOUSE, SOUTH PLACE, LONDON, E.C.2,
12th May, 1961

ANNUAL REPORT

9

THE SPIERS' MEMORIAL FUND
INCOME AND EXPENDITURE ACCOUNT FOR THE YEAR ENDED 31st DECEMBER, 1960

EXPENDITURE		INCOME	
1959		1959	
£21	To Spiers Memorial Lecture	£6	By Income from Investments
—	„ Balance carried down	4	„ Income Tax recoverable
		11	„ Balance carried down
£21		£21	
£11	To Balance brought down	—	By Balance brought down
104	„ Balance carried forward	£115	„ Balance brought forward
£115		£115	
		£9 12 6	
		9 12 6	
		104 3 0	
		£113 15 6	

***THE BOURKE FUND**

INCOME AND EXPENDITURE ACCOUNT FOR THE YEAR ENDED 31st DECEMBER, 1960

EXPENDITURE		INCOME	
1959		1959	
£26	To Printing Expenses, etc.	£127	By Income from Investments
158	„ Bourke Lectures	64	„ Income Tax recoverable
7	„ Balance carried down		
£191		£191	
£222 1 6		£222 1 6	
£681	To Balance carried forward	£7	By Balance brought down
		674	„ Balance brought forward
£681		£681	
		£734 2 6	
		734 2 6	

*The Council decided on the 27th July, 1938, that in order that the name of the Society's benefactor, Lieut.-Col. J. J. Bourke, should be kept in memory, a proportion of the capital (£15,490 12s. 7d.) received from his legacy should be allocated to a fund to be called the "Bourke Fund", and that the income from this Fund should be devoted to meet the expenses incurred by the Society in respect of overseas guests and visitors to the Society's General Discussions.

INVESTMENTS

Holding		Book Value
British Government Securities:		
£607 10 4	4½% Conversion Stock 1964	£609 7 2
6,219 7 5	4½% British Electricity Gtd. Stock 1974/79	5,672 1 10
5,500 0 0	5½% Treasury Bonds 1962	5,485 0 6
		<u>£11,766 9 6</u>
British Industrial Stocks and Shares:		
500 0 0	4½% Babcock & Wilcox Debentures 1980	£487 10 0
1,000 Shares	Great Universal Stores Ltd. 5/- 'A' Ordinary Stock	1,640 6 2
1,250 0 0	Imperial Chemical Industries Ltd., Ord. Stock	885 0 0
1,000 0 0	Imperial Chemical Industries Ltd., 4½% Loan 1972/74	1,000 0 0
1,500 Shares	Mercantile Credit Co. 5/- Ord.	1,363 5 1
205 Shares	Prudential Assurance Ltd. 4/- 'A' Ordinary	1,864 11 9
200 0 0	Royal Insurance Co. Ltd.	2,385 12 10
255 0 0	Shell Transport & Trading Co. Ordinary Stock	1,973 9 3
375 0 0	Unilever Ltd. Ordinary Stock	377 15 1
4,200 0 0	British Petroleum Company Limited. 6% Convertible Debenture Stock 1976/80	4,187 16 3
1,200 Shares	Gallaher Limited. 10/- Ordinary stock	2,336 9 0
60 Shares	Hong Kong & Shanghai Banking Corporation \$125 Shares	3,582 5 3
		<u>£22,084 0 8</u>
		<u>£33,850 10 2</u>

(Market value, 31st December, 1960, £44,118)

SPIERS' MEMORIAL FUND

£250 0 0	3½% Australia 1965/69	£247 12 3
50 0 0	3% Savings Bonds 1960/70	50 0 0
		<u>£297 12 3</u>

(Market Value, 31st December, 1960, £238)

THE BOURKE FUND

£250 0 0	3% Savings Bonds 1960/70	£250 0 0
1,377 19 1	3% Savings Bonds, 1965/75	1,354 6 9
1,925 Shares	Commercial Union Assurance 5/- Ordinary Shares	2,571 9 3
		<u>£4,175 16 0</u>

(Market Value, 31st December, 1960, £7,101)