# ONE HUNDRED AND TWELFTH ANNUAL GENERAL MEETING, THE REPORT OF COUNCIL, AND ACCOUNTS FOR THE YEAR ENDED DECEMBER 31st, 1952 

## ONE HUNDRED AND TWELFTH ANNUAL GENERAL MEETING.

The One Hundred and Twelfth Annual General Meeting of the Chemical Society was held in Burlington House at 10.30 a.m. on Friday, March 27th, 1953. The President, Professor C. K. Ingold, was in the Chair.

Professor E. D. Hughes, Honorary Secretary, read the notice convening the meeting.
The President then called upon Professor H. Burton, Senior Honorary Secretary, to present the Report of Council for 1952. Professor Burton stated that the year had seen a further increase in the Fellowship of the Society, which now numbered over 9,000 . He referred to the honours which had been awarded to Fellows of the Society during the year, and mentioned particularly the award to the President of a Royal Medal announced by the Royal Society.

The Journal had continued to increase in size, but the number of papers received had declined during the past few months, and this indicated that possibly the period of expansion had come to an end. The Council was much indebted to the many fellows who had acted as referees of papers. In conclusion, Professor Burton expressed the Council's appreciation of the work undertaken on behalf of the Society by its Local Representatives and paid a tribute to the Society's permanent staff.

In presenting the Accounts for 1952, the Treasurer drew attention to the uncertainty regarding the future of Abstracts and to the contingent liability which appeared as a footnote to the balance sheet. He gave an account of the negotiations which had taken place in an attempt to secure financial assistance to enable publication of British Abstracts to continue in 1953. If support was forthcoming it was hoped that more permanent arrangements could be made for subsequent years. The Government had already made an interim payment of $£ 5,000$ to enable the abstracting organisation to be kept in being and had agreed to make a further substantial payment on the understanding that the balance of the total amount required would be forthcoming from Industry. The appeal to Industry had recently been issued, but it was too early to gauge the result.

In reply to a Fellow who mentioned the crowded accommodation at certain of the Society's meetings, it was stated that attendances were very difficult to estimate in advance. Meetings held in the Society's own rooms had often been overcrowded, but there had also been occasions when the attendance at meetings in other lecture theatres had been disappointingly small.

After discussion the Report of Council and the Accounts for 1952 were unanimously adopted on the proposal of Professor D. H. Hey, seconded by Dr. T. S. Stevens.

The President announced that the following Fellows had been elected to fill vacancies on the Council :

Vice-President:
Professor R. D. Haworth.

## Elected Ordinary Members of Council:

Constituency I:
Professor F. Bergel. Professor M. J. S. Dewar. Dr. A. I. Vogel.

Constituency IV :
Dr. I. J. Faulkner.
Professor Brynmor Jones.

On the motion of the Treasurer, seconded by Dr. L. E. Sutton, Messrs. W. B. Keen and Company, Finsbury Circus House, Blomfield Street, London, E.C.2, were re-appointed as the Society's Auditors for 1953.

In conclusion, a vote of thanks to the President, Officers, and Council for their services during the past year was proposed by Professor Brynmor Jones and carried with acclamation.

After an interval the meeting was resumed at 11.30 a.m. The President referred to the award to Dr. F. Sanger of the Corday-Morgan Medal and Prize for 1951 in recognition of his contributions to experimental chemistry published in two papers on " The Amino-acid Sequence in the Phenylalanyl Chain of Insulin." Dr. Sanger was prevented through illness from attending in person to receive the award.

The President then delivered his Presidential Address, "Old and New Ideas on Saturated Re-arrangements." At the conclusion of the Address a vote of thanks to the President, proposed by Sir John Simonsen, was carried with enthusiasm.

## REPORT OF COUNCIL FOR 1952.

## I. ROYAL PATRONAGE.

Through the sudden death of His Majesty King George VI, the Society mourned the loss of its Patron. An address of condolence, and of loyalty on her accession, was conveyed to Her Majesty Queen Elizabeth II. A respectful message of sympathy was also sent by the Council to H.M. Queen Elizabeth, the Queen Mother.

The Council was pleased to announce, in June 1952, that Queen Elizabeth II had continued the tradition established by her father and had graciously extended her Patronage to the Society.

## II. FELLOWSHIP.

1. General. The Council is pleased to report that, in 1952, the number of Fellows increased from 8616 on January lst to 9063 , the highest figure in the history of the Society, on December 31st. The net increase during the year was the largest since 1947, and was achieved in spite of the increase in the numbers lost to the Fellowship through death, resignation, or removal. Some comparative figures are given in the following table :

|  | Table 1. |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | 1949 | 1950 | 1951 | 1952 |
| Number of Fellows on January 1st | 7873 | 8195 | 8353 | 8616 |
| Additions: |  |  |  |  |
| Elections | 675 | 749 | 700 | 947 |
| Reinstatements | 26 | 29 | 25 | 34 |
| Miscellaneous | $\text { — } 701$ | $\begin{gathered} 1 \\ - \\ - \end{gathered}$ | - 725 | $\begin{array}{r} 1 \\ - \end{array} 982$ |
| Deductions : |  |  |  |  |
| Deatbs ............................... | 60 | 66 | 62 | 65 |
| Resignations. | 210 | 267 | 273 | 341 |
| Removals .... | 109 | 181 | 127 | 128 |
| Miscellaneous ........................ | $\text { — } 379$ | $\stackrel{107}{-} 621$ | - 462 | ${ }^{1} 535$ |
| Net increase in year | $\overline{322}$ | 158 | $\overline{263}$ | 447 |

As in recent years, a high proportion of the new Fellows came from overseas, especially from the United States of America. The number of Fellows participating in the Joint Subscription Scheme sponsored by the Chemical Council was 4837, an increase of 67 during the year.
2. Honours. The congratulations of the Society were conveyed to the following Fellows who received Honours during the year :

Knight Bachelor<br>Rudolph Albert Peters<br>Thomas Weston Johns Taylor<br>C.B.E.<br>Thomas Percy Hilditch<br>Frederick Measham Lea Thomas James Drakeley<br>Donald Thomas Alfred Townend

The Council has also congratulated the following to whom the award of Medals was announced by the Royal Society :

Royal Medal
Professor C. K. Ingold, President
Davy Medal
Professor A. Robertson
3. Deaths. The Council deeply regrets to record the death during the year of a distinguished Past-President of the Society, Professor N. V. Sidgwick (President 1935-37; Vice-President 1925-28, 1934-35, 1937-52; Council 1921-24, 1928-31). The Council has also announced with regret the death of Professor Arthur Becket Lamb (Harvard), who was elected an Honorary Fellow of the Society in 1951.

## III. PUBLICATIONS.

1. Journal. During 1952, 1046 scientific communications were received and 1000 were published. In comparison with 1951 ( 910 received, 788 published), these figures represent increases of $15 \%$ and $27 \%$ respectively. During 1952, 38 communications were declined, and 21 were withdrawn. Table 2 shows some comparative figures :

|  | Table 2. |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1938 | 1948 | 1949 | 1950 | 1951 | 1952 |
| Papers and Notes received........... | 507 | 548 | 739 | 874 | 910 | 1046 |
| Less rejected or withdrawn ...... | 11 | 17 | 19 | 68 | 71 | 59 |
|  | 496 | 531 | 720 | 806 | 839 | 987 |
| Papers and Notes published | 404 | 511 | 870 | 799 | 778 | 1000 |
| $\begin{array}{lllllllll}\text { No. of pages (Papers and Notes) } \ldots & 1917 \text { * } & 2203 & 3762 & 3576 & 3368 & 4901 \text { * }\end{array}$ |  |  |  |  |  |  |
| No. of pages (total, excluding Index Volume) | 2120* | 2330 | 3858 | 3697 | 3514 | 5056 * |
| Average no. of pages per communication | 4.75* | $4 \cdot 35$ | 4.32 | $4 \cdot 44$ | $4 \cdot 33$ | 4.90 * |

> * Pre-war sizes of type.

The Journal for 1952 contained 1030 items, made up as shown in Table 3, where some comparative figures are also given. Table 4 shows that the distribution of papers between the three classes varies only slightly, but that the proportion of notes has risen steadily although it still remains fairly low.

Table 3.
Numbers of items in the Journal.

|  | 1938 | 1948 | 1949 | 1950 | 1951 | 1952 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Papers $\begin{gathered}\text { (General, } \\ \text { Inorganic) }\end{gathered}$ Physical, and | 102 | 124 | 147 | 147 | 131 | 194 |
| ,, (Physical Organic) ........ |  | 16 * | 125 | 110 | 100 | 134 |
| ,, (Organic) .............................. | 275 | 326 | 530 | 469 | 462 | 556 |
| Notes | 27 | 45 | 68 | 73 | 85 | 116 |
| Lectures and Addresses | 9 | 5 | 6 | 6 | 3 | 6 |
| Obituary Notices | 37 | 17 | 11 | 16 | 9 | 21 |
| Annual General Meeting.................. | 1 | 2 | 1 | 1 | 1 | 2 |
| Editorial Nomenclature Report | - | - | - | 1 | 1 | 1 |
| Report by Symbols Committee of the Royal Society | - | - | - | - | 1 | - |
| I.U.P.A.C. List of Atomic Weights | 1 | - | - | - | 1 | - |
| Report of Commission of Nomenclature of Inorganic Chemistry $\qquad$ | - | - | - | - | 1 |  |
|  | 452 | 535 | 888 | 823 | 795 | 1030 |

* Class first introduced in the Journal for December 1948.

Table 4.
Percentage Distribution in the Journal.

| Papers |  | 1938 | 1948 | 1949 | $1950$ | $\begin{aligned} & 1951 \\ & 16.8 \end{aligned}$ | $\begin{aligned} & 1952 \\ & 10.4 \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | (General, Physical, |  |  |  |  |  |  |
|  | Inorganic) ...... |  |  |  |  |  |  |
| " | (Physical Organic) |  | $3 \cdot 1$ | 14.4 | 13.8 | $12 \cdot 8$ | $13 \cdot 4$ |
|  | (Organic) | 74.8 | 63.8 | $60 \cdot 9$ | 58.7 | $59 \cdot 4$ | 55.6 |
| Notes |  | 6.7 | 8.8 | $7 \cdot 8$ | 9•1 | 10.9 | 11.6 |

Contributions from industrial laboratories, published during 1952, totalled 90 , including 5 jointly with academic institutions and 1 jointly with an industrial research organisation; during 1951 also this total was 90 ; expressed as a percentage of all contributions these figures are: 1952, $9.0 \%$; 1951, $11.5 \%$. However, contributions from Government and industrial research organisations increased both in number and proportion: 1951, $61(7.8 \%)$; 1952, $107(10.7 \%)$, including 14 jointly with academic institutions and 1 jointly with an industrial laboratory. The proportion from non-academic institutions remained in total about the same: 1951, $19 \cdot 2 \%$; 1952, 19•7\%.

Communications from overseas, published during 1952, numbered 157, $15.7 \%$ ( 1951 , $15 \cdot 6 \%$ ), including 12 jointly with British laboratories (given in parentheses in Table 5 below) :

| Table 5. |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1948 | 1949 | 1950 | 1951 | 1952 |
| Australia | 13 | 47 | 51 | 38(1) | 62(1) |
| British Colonies and Protectorates |  |  | - | 4(1) | 6 (3) |
| Canada .................... | 2 | 5 |  | 1 | 2(1) |
| Egypt | 15 | 25 | 13 | 22 | 12 |
| France | 2 | 6 | 3 | 10 | 10 |
| Hungary | 6 | 2 | 1 | 1 | 3 |
| India | 3 | 3 | 1 | 3 | 3(1) |
| Irish Republic | - | 6 | 8 | 5 | (1) |
| Israel ...... | 2 | 4 | 6 | 7 | 10(2) |
| New Zealand | 14 | 15 | 22 | 5 | 18 |
| South Africa | 1 | 10 | 14 | 10 | 14(1) |
| U.S.A. .... | 2 | 10 | 12 | 13(7) | $8(3)$ |
| Miscellaneous | 7 | 8 | 5 | 2(1) | 5 |
|  | 67 | 141 | 136 | 121(10) | 157(12) |

The number of communications received during 1952, less the number rejected or withdrawn, was 987 (see Table 2); the number published during the year was 1000 . The Figure shows the times, to the nearest week, between receipt of communications and their publication (taken as the first day of each month). Comparison of curve $B$ for com-

munications without illustrations with curve $C$ for those containing illustrations shows the extra four weeks required for touching up of diagrams and preparation of blocks. As a result, curve $A$, for all communications, shows a double peak. Curve $D$, for notes (these figures are included also in those shown in the other curves), shows that notes are not, in general, published faster than papers. The time taken for revision of manuscripts as a result of referees' comments discloses itself in the tailing off of the curves; but a small amount of time for discussion with referees is included in the maxima. A slight seasonal variation can be discerned in monthly figures; owing to the effect of the summer holidays on referees, printers, and authors (who take longer to return proofs and reply to referees), publication is slightly faster in the winter than in the summer. However, it is reasonable to consider that the "normal" time required for publication corresponds to the top minimum in curve $A, i . e ., 20-21$ weeks ( $4 \frac{3}{4}$ months) which is $\frac{1}{2}-1$ week less than in 1951, in spite of the notably greater number of publications.
2. Annual Reports on the Progress of Chemistry for 1951 (Volume XLVIII). These were issued at the end of July 1952 and contained 428 pages ( 490 in the previous year).
3. Quarterly Revieros. Volume VI (1952) contained fifteen articles, occupying 398 pages ((Volume V, eighteen articles, 423 pages).
4. Nomenclature. An Editorial Report on Nomenclature is being published with the index to the Journal for 1952. This will contain the I.U.P.A.C. rules on Organic Nomenclature (with comments by the Editor) and recent British-American agreements on the nomenclature of carbohydrates and organophosphorus (and allied) compounds. Many important changes are involved. They have been approved for use in the Society's publications and will be adopted for all MSS. submitted henceforth. Reprints will be available from the General Secretary, price $1 s$. each, post free. Reprints of the Reports for 1950 and 1951 are also available, price ls. each, post free.
5. Brochure: Presentation of Papers for the Journal of the Chemical Society. A brochure with this title, giving instructions and advice to authors, has been issued. Each Fellow may obtain one copy gratis on application to the General Secretary, and further copies at the public price, which is $1 s .6 d$. per copy post free or $12 s .6 d$. per 10 copies post free.
6. List of Fellows. A new edition of the list of Fellows has been prepared, and will be made available to Fellows in 1953, price 2s. $6 d$. per copy.

## IV. MEETINGS.

1. Scientific Meetings. Details of all meetings, including those held in London and those arranged at various centres by the Local Representatives of the Society, are given in Appendix A. The meetings in London included a Reception and Conversazione held on May 8th, 1952, at the Senate House of the University.
2. Anniversary Meetings. The Anniversary Meetings were held in Dublin on April 15th-18th in conjunction with the Anniversary Meetings of the Royal Institute of Chemistry. With the exception of the two Annual General Meetings, all the events were open to members of either body. A full programme was published in the Proceedings for March, 1952.
3. Centenary Lecture. In February Professor T. Reichstein, Honorary Fellow (Basle), delivered his Centenary Lecture, " The Chemistry of the Cardiac Glycosides," in London and in Manchester.

## V. LIBRARY.

The Annual Report of the Joint Library Committee is reproduced as Appendix B to this Report.

## VI. OTHER ACTIVITIES.

1. "Acta Metallurgica." The Council has agreed to become a co-operating Society in the publication of Acta Metallurgica, a new international journal of the science of metals. Fellows will be able to subscribe at privileged rates.
2. Grants for Research. The Council has authorised grants to 37 applicants amounting to $£ 6435$ s. 0d. to be made from the Research Fund.
3. Corday-Morgan Medal and Prize. The Corday-Morgan Medal and Prize for 1950 was awarded to Dr. R. S. Nyholm.

## VII. ADMINISTRATION.

1. Council. At the Annual General Meeting on April l6th, the following were declared elected:

President
Vice-Presidents who have not filled the Office of President
Elected Ordinary Members of Council.......

Professor C. K. Ingold.
Professor E. L. Hirst, Sir John Simonsen. Dr. D. H. R. Barton, Dr. N. Campbell, Dr. J. Chatt, Dr. S. J. Gregg, Dr. F. B. Kipping, Dr. E. A. Moelwyn-Hughes, Professor A. Robertson, Dr. M. A. T. Rogers.

Since the Annual General Meeting, Dr. S. H. Harper was co-opted under Bye-Law 42 as an Ordinary Member of Council to fill the vacancy caused by the resignation of Dr. H N. Rydon, who had ceased to reside in the area of Constituency I.
2. Local Representatives. The following new appointments were made to fill vacancies among the Society's Local Representatives :

Aberdeen.<br>Australia<br>Dr. R. H. Thomson in place of Dr. J. M. C. Thompson.<br>Edinburgh Professor A. J. Birch in place of Dr. T. Iredale.<br>Exeter<br>Dr. T. R. Bolam in place of Dr. N. Campbell.<br>Glasgow Dr. K. Schofield in place of Dr. S. J. Gregg.<br>New Zealand Dr. F. D. Gunstone in place of Dr. J. C. Speakman. Professor S. N. Slater in place of Professor F. G. Soper.

## VIII. FINANCE.

1. The Cost of Publications. The expenses of publication have risen even more sharply than in recent years and, but for the generous and much increased grants received, through the Chemical Council, from Industry, the gap between costs and income would have been very large indeed. The Society is dependent, to a much greater extent than in the past, upon outside grants to meet the expenses of its Journal, as well as to meet the financial requirements of the Abstracts. The changes in certain items of income and expenditure over the past five years are given in Table 6 below :

Table 6.

|  | Income. |  |  | Expenditure. |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Annual subscriptions (net). | Sales of publications. | Outside grants. | Administration. | Journal of the Society. | Contributions to Bureau of Abstracts. |
|  | Ł | $\pm$ | Ł | Ł | $t$ | $\pm$ |
| 1948 | 20,754 | 9,503 | 3,400 | 7,855 | 19,997 | 5,300 |
| 1949 | 22,629 | 13,778 | 5,233 | 7,492 | 31,963 | 5,300 |
| 1950 | 26,884 | 16,784 | 15,985 | 7,468 | 31,713 | 12,084 |
| 1951 | 26,928 | 22,358 | 33,500* | 7,632 | 36,309 | 14,000 |
| 1952 | 29,273 | 21,365 | 49,550 | 7,178 | 53,439 | 26,000 |

2. Contributions. The Council wishes to express its gratitude for a contribution of $£ 5800$ received through the Royal Society from the Government Scientific Publications Grant-in-Aid and for grants totalling $£ 43,750$ received through the Chemical Council from Industry.
3. Increased Annual Subscription. In order to meet the steadily rising costsespecially costs of publication-the Council proposed that the rate of the Fellow's annual subscription be increased from $£ 310 \mathrm{~s}$. to $£ 410 \mathrm{~s}$. At the same time it was proposed that the age at which the full subscription becomes payable be raised from twenty-five to twentyseven years of age. These proposals, with certain consequential changes in the Bye-Laws, were approved by the Fellows at an Extraordinary General Meeting held on Thursday, July 17th, 1952 (J., 1952, 3663).

At the same time the schedule prices of certain publications have been increased to bring these more into line with current costs of production, and Council has decided that, in future, Fellows should be asked to certify that the publications they have ordered are for their personal use.
4. British Abstracts. The Society's payments to the Bureau of Abstracts have increased very rapidly in the past three years (see Table 6), and whilst these payments have been matched by correspondingly larger grants received from Industry, the ultimate financial responsibility for any deficit rests upon the Chemical Society and the Society of Chemical Industry. The two Societies are agreed that this responsibility is now too great for their financial resources, and accordingly the Bureau has been informed that the Societies must, in 1953, limit their liability to the sums originally guaranteed ( $£ 5300$ in the case of the Chemical Society).

At the same time the Council has stressed the importance to British chemistry of maintaining an adequate abstract service, available to the individual at a reasonable price, and very strenuous efforts have been made which will, it is hoped, ensure that sufficient financial support is forthcoming to enable the publication of $A b s t r a c t s$ to continue.
5. Sale of Publications. The price at which publications are sold to libraries has in some cases been increased. Libraries of Charitable Institutions will, in future, receive a discount of $10 \%$ on the price of publications ordered from the Society.
6. Library. The Association of British Chemical Manufacturers has agreed to continue the annual payments of $£ 100$ under Deed of Covenant to the Society for the benefit of the Library Fund for a further period of seven years. The Council has recorded its thanks to the Association.

The Council also records its thanks to the Chemical Council for a grant of $£ 59911 \mathrm{~s} .0 \mathrm{~d}$. towards the maintenance costs of the Library. Out of a total maintenance expenditure of $£ 47175 \mathrm{~s}$. $4 d$. the Society has contributed from its own resources the sum of $£ 8420 \mathrm{~s} .5 \mathrm{~d}$., as well as the entire capital expenditure for the year amounting to $£ 2453 \mathrm{ls}$. 8d.
7. Investments. The following changes in the Society's Investments have been made during the year:

General Purposes Account. $£ 12002 \frac{1}{2} \%$ Defence Bonds repaid at par.
$£ 11997 \mathrm{~s}$. 0d. invested in $£ 10003 \frac{1}{2} \%$ Defence Bonds and $£ 2003 \%$ Defence Bonds, 3rd Issue.

Special Reserve Fund. $£ 4000$ invested in $£ 18003 \%$ Defence Bonds, 3rd Issue, and $£^{2223} 5$ s. 0d. $2 \frac{1}{2} \%$ National War Bonds, 1954/56.

Staff Pensions Fund. $£ 2500$ 21 $\%$ Defence Bonds repaid at par.
$£_{2495}$ 17s. 10d. invested in $£ 10003 \frac{1}{2} \%$ Defence Bonds, and $£ 15053 \%$ Defence Bonds, 3rd Issue.

Centenary Fund. $£ 2000$ invested in $£ 2265$ 16s. $6 d .4 \%$ Consolidated Stock, 1957, or after.

The Council has also approved the investment of a further $£ 2000$ in $£ 230219 \mathrm{~s} .6 \mathrm{~d}$. $3 \frac{1}{2} \%$ Agricultural Mortgage Corporation Debenture Stock, 1975/78.

Corday-Morgan Medal and Prize Fund. £206 5s. 0d. 4 $\frac{1}{2} \%$ Bristol Corporation Stock, 1952/62, repaid at par.
$£^{206} 5 \mathrm{~s}$. 0 d . invested in $£^{207} 1 \mathrm{ls} .10 \mathrm{~d} .4 \frac{1}{4} \%$ British Electricity Guaranteed Stock, 1974/79.

## IX. REPRESENTATIVES OF THE SOCIETY ON OTHER BODIES.

In 1952 the Society was represented on various bodies by the following :
" Acta Metallurgica" :
International Journal of the Science of Metals: Dr. U. R. Evans.
Association of British Chemical Manufacturers :
Joint Technical Committee on Patents: Dr. J. T. Hewitt.

## Barker Committee :

Formed to support the publication of the Barker Index of the characteristic angles of crystalline compounds: Dr. G. M. Bennett.

Bristol University Court:
Professor T. S. Moore.
British National Committee for Chemistry :
Sir Eric Rideal, Professor E. D. Hughes, Professor M. Stacey.
British National Committee for Crystallography :
Professor J. M. Robertson.
British Standards Institution. Technical Committees:
C/17. Viscosity : Dr. A. E. Dunstan.
C/34. Standardisation of pH Scale: Professor H. T. S. Britton.
CHE/36. Chemicals for Electroplating: Dr. J. R. I. Hepburn.
DAC/-. Standards for Dairying Chemistry : Mr. Eric Voelker.
FCC/HCC/1. Nomenclature for Fine and Heavy Chemicals Industries: The Editor.
$\mathrm{HCC} / 2$ Silica Gel : Dr. B. Lambert.
LBC/-. Scientific Glassware and Related Laboratory Apparatus: Dr. G. R. Davies.
LBC/1/1. Dean and Stark and Ubbelohde Apparatus: Dr. G. R. Davies.
LBC/5. Hydrometers: Mr. R. Sutcliffe.
LBC/6. Standard Distillation Apparatus: Mr. R. Sutcliffe.
LBC/11. Microchemical Apparatus: Mr. R. Belcher, Dr. H. D. K. Drew.
LBC/11/1. Apparatus for Microchemical Combustion Methods: Mr. R. Belcher.
LBC/11/3. Accessory Apparatus connected with Gravimetric Microanalysis : Mr. R. Belcher.
LBC/16. Standardization of Glass Electrodes: Dr. D. J. G. Ives.
$\mathrm{LBC} / 17$. Apparatus Drawing Conventions: The Editor.
LGE/19. Colour Terminology : Dr. F. M. Hamer.
PAC/13. Laboratory Filter Papers: Mr. F. H. Burstall.
PCC/1. Nomenclature for Insecticides: Professor R. L. Wain.
RUC/8. Rubber Tubing and Bungs for Laboratory Use: Dr. L. C. Bateman.
USM/1. Units and Technical Data: The Editor.
USM/2. Units, Symbols and Abbreviations: The Editor.

## Bureau of Abstracts:

Directors and Members : Sir Wallace Akers, Dr. G. M. Bennett, Dr. G. M. Dyson, Professor H. Burton.
Members : Mr. R. P. Bell, Dr. A. H. Cook, Professor H. N. Rydon, Professor W. Wardlaw.

## Chemical Council:

The Treasurer, Mr. R. P. Bell, Professor H. Burton, Professor E. D. Hughes.
City and Guilds of London Institute :
The President.
Faraday Society. Colloidal and Biophysics Committee:
Dr. P. Johnson.
Joint Library Committee :
Dr. J. H. Burgoyne, Professor M. J. S. Dewar, Dr. F. Fairbrother, Dr. J. E. Garside, Professor E. D. Hughes, Dr. D. J. G. Ives, Professor K. Lonsdale, Professor H. N. Rydon, Dr. L. E. Sutton, Dr. F. C. Tompkins, Professor C. Tyler, Professor R. L. Wain, Dr. J. Walker, Professor W. Wardlaw.

Lawes Agricultural Trust. Committee of Management :
Sir John Simonsen.

## Parliamentary and Scientific Committee :

The President, The General Secretary.
Regional Council for Further Education for the South-West. Chemistry and Chemical Technology Committee :
Professor W. E. Garner.
Royal Society : Joint Standing Committee for Symbols and Abbreviations:
Mr. R. P. Bell, The Editor.
Royal Society: Scientific Societies Accommodation Committee:
The President.
Yorkshire Council for Further Education. Advisory Committee for Chemistry in South and East Yorkshire :
Professor R. D. Haworth.

## APPENDIX A.

## MEETINGS HELD DURING 1952.

## IN LONDON.

All meetings were held in the Rooms of the Society at Burlington House.
January 24th, The Gustav Tamann Memorial Lecture, by Professor W. E. Garner; February 7th, Symposium, "The Physical Chemistry of Structural Changes in Solids," arranged by Professor A. R. Ubbelohde. Contributions from the following were read and discussed-Professor A. R. Ubbelohde, Professor F. E. Simon, Mr. L. A. K. Staveley, Dr. J. S. Anderson, Miss H. D. Megaw, Dr. J. C. Kendrew, and Professor W. E. Garner; February 21st, Centenary Lecture, "The Chemistry of the Cardiac Glycosides," by Professor T. Reichstein, Honorary Fellow; March 13th, Meeting for the reading of original papers; March 27th, Hugo Müller Lecture, "The Chemical Exploration of the Stratosphere," by Professor F. A. Paneth; May 8th, Meeting for the reading of original papers; June 5th, Meeting for the reading of original papers; October 16th, Tilden Lecture, "The Stereochemistry of cycloHexane Derivatives," by Dr. D. H. R. Barton; November 6th, Willstätter Memorial Lecture by Sir Robert Robinson; November 20th, Tilden Lecture, " The Chemistry of Intermolecular Compounds," by Mr. H. M. Powell; December 4th, Meeting for the reading of original papers; December 18th, Meeting for the reading of original papers.

## OUTSIDE LONDON.

Aberdeen. Joint meetings with the local sections of the Royal Institute of Chemistry and the Society of Chemical Industry, at Marischal College; January 18th, Lecture, " Recent Developments in Vitamin $\mathrm{B}_{12}$," by Dr. T. F. Macrae; March 28th, Lecture, " Chromatography," by Dr. R. L. M. Synge; at Robert Gordon's Technical College, Aberdeen : October 24th, Lecture, " Applications of Spectroscopy to Chemical Problems," by Dr. W. C. Price; November 6th, Lecture by Miss Mamie Olliver; December 5th, Lecture, "Chemistry in Higher Technological Education," by Dr. H. J. T. Ellingham.

Australia. August 13th, a joint meeting of local Fellows and the Sydney University Chemical Society held in the Chemistry Department of the University to commemorate the birth of the late Henry George Smith. The meeting included a lecture by Professor A. J. Birch and a talk by Mr. W. J. Dunstan.

Birmingham. Joint meetings with the University Chemical Society, at the University: January 25th, Lecture, "Chemistry of the Tropolones," by Professor R. D. Haworth; March 14th, Lecture, "The Formation of Hydrogen Atoms in Aqueous Solution," by Professor F. S. Dainton; October 24th, Lecture, "Studies in the Chemotherapy of Tuberculosis," by Dr. V. C. Bärry; December 5th, Lecture by Mr. B. H. Turpin (Quickfit and Quartz, Ltd.).

Bristol. At the University, January 24th, Lecture (with demonstration), "High Vacuum in the Service of the Chemist," by the Staff of W. Edwards and Co. (London), Ltd.; February 7th, Lecture, " Effect of Light on the Combustion of Hydrocarbons," by Professor R. G. W. Norrish; at the Technical College, Gloucester, February 14th, Lecture, "Applications of Infra-red Spectroscopy to the Study of Plastic Polymers," by Dr. H. W. Thompson. Joint meetings with the Royal Institute of Chemistry and the Society of Chemical Industry: October 1st, Lecture, "Synthetic Fibres," by Mr. B. T. Ridge, with the Plastics Institute at the Premier Hall, Stroud; at the University: October 2nd, Lecture, "Some Metallurgical Problems imposed by Stratosphere Flight," by Major P. L. Teed (with the Institute of Metals) ; October 30th, Lecture, "The Work of the Food Investigation Board," by Dr. Franklin Kidd (read by Dr. E. C. Bate-Smith) ; November 20th, Lecture, " Pile-produced Isotopes," by Dr. W. J. Arrol; November 27th, Lecture, " Phosphates and their Application to Industry," by Mr. C. W. Todd; December 4th, Lecture, "Selection of Lubricants for Industrial Applications," by Dr. Priston, at Gloucester Technical College.

Edinburgh. Joint meetings with the Royal Institute of Chemistry and the Society of Chemical Industry, at the North British Station Hotel, unless otherwise stated : January 17th, Lecture and demonstration by Quickfit and Quartz, Ltd.; with the Edinburgh University Chemical Society, February 5th, Lecture, "A Biochemical Approach to Chemotherapy," by Dr. T. S. Work, at the Biochemical Lecture Theatre, Teviot Place; February 21st, Lecture, " Recent Trends in Refractories Research," by Dr. A. T. Green; November 13th, Lecture, " Acetylenic Compounds," by Dr. R. A. Raphael.

Exeter. At the Washington Singer Laboratories, unless otherwise stated: January 22nd, Lecture, "Inorganic Chromatography," by Dr. F. H. Pollard, joint meeting with the Society of Chemical Industry; February 18th, Lecture, "Chemistry of the Tropolones," by Professor R. D. Haworth; March 13th, Lecture, " Some Aspects of Physical Oceanography in Antarctic and Sub-antarctic Waters," by Dr. H. F. P. Herdman, joint meeting with the Royal Institute of Chemistry and the Society of Chemical Industry at the Technical College, Tavistock Road, Plymouth; May 5th, Meeting for the reading of original papers; October 24th, Lecture, " Some Unusual Applications of Surface-active Agents," by Mr. J. L. Moillett, joint meeting with the Society of Chemical Industry; October 31st, Lecture, "The Bacteriostatic Properties of Heterocyclic Compounds," by Dr. A. Albert; November 27th, at the Washington Singer Laboratories and November 28th, at the Technical College, Tavistock Road, Plymouth, Lecture, " Metallic Complex Formation and Electronic Structure," by Dr. J. Chatt.

Glasgowe. January 18th, Tilden Lecture, "The Contributions of Wave Mechanics to Chemistry," by Professor C. A. Couslon, at the University; February 29th, Annual General Meeting of Local Fellows followed by a Meeting for the reading of original papers, at the University; October 24th, Lecture, "Substitution at an Aromatic Carbon Atom," by Professor D. H. Hey, joint meeting with the Alchemist's Club and the Andersonian Chemical Society, at the Royal Technical College; November 21st, Lecture, " Some Recent Work on the Chemistry of Metallic Oxides," by Dr. J. S. Anderson, at the University.

Hull. At University College : January 31st, Lecture, " The Physics and Chemistry of Monolayers," by Dr. J. H. Schulman; February 21st, Lecture, " La Liaison d'Hydrogène," by Professor L. Hunter, joint meetings with the University College Scientific Society: October 30th, Lecture, " Recent Progress in the Mechanism of Synthesis of High Polymers," by Professor H. W. Melville; December llth, Lecture, "Chemical Research at Harwell," by Dr. R. Spence (with the Royal Institute of Chemistry).

Irish Republic. January 16th, Lecture, " Recent Advances in the Chemistry of Algal Polysaccharides," by Dr. F. J. Coll, at Trinity College, Dublin; March 7th, Lecture, " Recent Advances in Nucleotide Chemistry," by Professor A. R. Todd, joint meeting with The Werner Society at Trinity College, Dublin; April 15th to 18th, Anniversary Meetings held jointly with the Royal Institute of Chemistry (for full programme see Proceedings for March, 1952) ; May 16th, Lecture, "The Chemical Exploration of the Stratosphere," by Professor F. A. Paneth, joint meeting with the Werner Society at Trinity College, Dublin; October 22nd, Lecture, "Physical Chemical Methods in Sugar Industry Laboratories," by Mr. R. J. P. Carolan, joint meeting with the Institute of Chemistry of Ireland, at University College, Dublin; November 5th, Lecture, " Recent Physico-chemical Studies on $\pi$ Electrons in Solids," by Professor A. R. Ubbelohde, at University College, Dublin; November 21st, Lecture, "The Molecular-orbital Theory of Organic Chemistry," by Professor M. J. S. Dewar, joint meeting with the Werner Society at Trinity College, Dublin.

Leeds. At the University: January 21st, Royal Institute of Chemistry Lecture, " Recent Developments in Acetylene Chemistry," by Professor E. R. H. Jones; January 29th, Lecture, " The New Elements," by Dr. F. Fairbrother; February 18th, Royal Institute of Chemistry Lecture, "Some Equilibria and Reactions of Sulphur," by Dr. G. Gee; March 4th, Lecture, "New Approaches to the Study of Combustion," by Professor R. G. W. Norrish, joint meeting with the University Union Chemical Society; October 28th, Royal Institute of Chemistry Lecture, " Detergent Action," by Professor N. K. Adam; November 25th, Lecture, "Chemistry of the Tropolones," by Professor R. D. Haworth. Fellows were invited to all meetings of the Royal Institute of Chemistry, Leeds Area Section, as well as to those organised by other bodies.

Liverpool. At the University, joint meetings with the Royal Institute of Chemistry, the Society of Chemical Industry, and the British Association of Chemists: January 24th, Lecture, "Some Recent Advances in the Chemistry and Biochemistry of Porphyrins," by Dr. A. Neuberger; March 6th, Lecture, "Some Aspects of the Chemistry of Group IV Elements," by Professor W. Wardlaw; November 6th, Lecture, "Some Aspects of the Chemistry of Sesquiterpenes," by Professor G. R. Clemo (with the University Chemical Society); November 27th, Lecture, " Kinetics of Halogenation of Organic Compounds," by Mr. R. P. Bell (with the University Chemical Society).

Manchester. January 17th, Meeting for the reading of original papers, at the College of Technology; at the University, unless otherwise stated: February 7th, Lecture, "Developments in the Chemistry of Macrocyclic Pigments," by Professor R. P. Linstead, joint meeting with the University Chemical Society; February 28th, Centenary Lecture, "The Chemistry of the Cardiac Glycosides," by Professor Dr. T. Reichstein, Honorary Fellow; March 27th, Symposium on Ion-exchange Resins, joint meeting with the Royal Institute of Chemistry, the Society of Chemical Industry, and the Institute of Petroleum; April 3rd, Hugo Müller Lecture, "The Chemical Exploration of the Stratosphere," by Professor F. A. Paneth; October 23rd, Lecture, " Derivatives of Phenols-Some Problems of Structure, Stereochemistry, and Crystal Complex Formation," by Professor Wilson Baker, joint meeting with the Royal Institute of Chemistry and Society of Chemical Industry; November 13th, Lecture, "Self-sustained Exothermic Chemical Reactions with Special Reference to Explosions and Jet Propulsion," by Dr. James Taylor, joint meeting with the Royal Institute of Chemistry and the Society of Chemical Industry, at the College of Technology; November 25th, Meeting for reading of original papers, at the College of Technology.

Newcastle and Durham. At King's College, Newcastle-on-Tyne, unless otherwise stated: January 25th, Bedson Club Lecture, "The Contributions of Wave Mechanics to Chemistry," by Professor C. A. Coulson; February 22nd, Bedson Club Lecture, "There and Back Again. Some Aspects of Hysteresis," by Professor D. H. Everett; March 7th, Meeting for the reading of original papers; May 2nd, Bedson Club Lecture, " Recent Advances in the Chemistry of the Heaviest Elements," by Dr. J. S. Anderson; October 24th, Meeting for the reading of original papers; October 30th, Lecture, " The Comparative Chemistry of Carbon and Silicon," by Professor E. D. Hughes, joint meeting with the Royal Institute of Chemistry and the Society of Chemical Industry at the Science Building, Durham; November 28th, Tilden Lecture, " The Stereochemistry of cycloHexane Derivatives," by Dr. D. H. R. Barton. Fellows were invited to the meetings of the Bedson Club.

Northern Ireland. At Queen's University, Belfast, joint meetings with the Royal Institute of Chemistry and the Society of Chemical Industry; January 30th, Lecture, " Recent Research on the Control of Flowering in Plants," by Dr. Eric Ashby; February 19th, Lecture, "On Making Jam," by Mr. E. F. Eaton; October 7th, Lecture, "The Winning and Utilization of Peat," by Mr. A. J. Howard. November 4th, Lecture, "William Higgins--His Life and Work," by Professor T. S. Wheeler; November 25th, Lecture, "Some Recent Advances in the Chemistry of Natural Products," by Dr. W. B. Whalley (with the Andrews Club) ; December 3rd, Jubilee Memorial Lecture of the Society of Chemical Industry, "Textile Fibres-Variations on Some Familiar Themes," by Mr. J. R. Whinfield.

North Wales. At the University College of North Wales, Bangor, joint meetings with the University College Chemical Society: January 10th, Lecture, "Mould Metabolic Products," by Professor Alexander Robertson; February 7th, Lecture, " Biological Value of Proteins," by Dr. Kathleen Henry, with the Liverpool Section of the Society of Chemical Industry; November 6th, Lecture, "Cortisone," by Professor C. W. Shoppee; December 4th, Lecture, "Some Recent Advances in the Chemistry of the Fluorine Compounds," by Professor H. J. Emeléus, with the North Wales Section of the Royal Institute of Chemistry.

Nottingham. Joint meetings with Nottingham University Chemical Society, at the University, unless otherwise stated: January 31st, Lecture, "The Place of the Transuranic Elements in the Periodic Table," by Dr. J. S. Anderson; February 19th, Lecture, "Chemistry of the Tropolones," by Professor R. D. Haworth; joint meeting with Leicester University College Chemical Society, at University College, Leicester;

March 13th, Lecture, " Starch Metabolism in the Higher Plants," by Professor S. Peat ; October 23rd, Lecture, ' 'The Molecular-orbital Theory of Organic Chemistry," by Professor M. J. S. Dewar; November 27th, Lecture, " Some Organometallic Compounds containing Fluorocarbon Radicals," by Professor H. J. Emeléus.

Oxford. Fellows were invited to the following Alembic Club Lectures held in the Physical Chemistry Laboratory: October 27th, Lecture, "Carcinogenesis," by Professor Alexander Haddow; November 10th, Lecture, "Herbicides and Insecticides," by Professor G. E. Blackman; November 24th, Lecture, "Industrial Catalysis," by Dr. D. A. Dowden.

St. Andrews and Dundee. At United College, St. Andrews, unless otherwise stated : January 11th, Lecture, " Isotopes in Biological Research," by Dr. G. R. Tristram, joint meeting with St. Andrews University Chemical Society; January 17th, Lecture, " Organic Fluorine Compounds," by Professor M. Stacey, at University College, Dundee; January 25th, Lecture, "New Approaches to the Study of Combustion," by Dr. G. Porter, joint meeting with St. Andrews University Chemical Society; January 31st, Lecture, "Some Recent Developments in Theoretical Organic Chemistry," by Professor M. J. S. Dewar, at University College, Dundee; February lst, Lecture, "The Photographic Action of $X$-Rays," by Mr. A. C. Coates, joint meeting with St. Andrews University Chemical Society; February 8th, Lecture, "Points in Chemotherapeutic Research, by Dr. F. L. Rose, joint meeting with St. Andrews University Chemical Society; February 28th, Lecture, " Structural Relationships in the Hemicellulose Group," by Professor E. L. Hirst, at University College, Dundee; March 7th, Lecture, "Some Aspects of Aromatic Substitution," by Professor Brynmor Jones, joint meeting with St. Andrews University Chemical Society; April 11th, Lecture, " Mechanism of Oxidation of Organic Compounds," by Dr. W. A. Waters, joint meeting with St. Andrews University Chemical Society; April 16th, Lecture, " Scientific Developments in the Field of Atomic Energy," by Sir John Cockcroft, joint meeting with St. Andrews University Chemical Society; April 18th, Lecture, "Polyacetylenes," by Professor E. R. H. Jones, joint meeting with the Royal Institute of Chemistry; October 17th, Lecture, " Alchemy and Art," by Professor John Read, joint meeting with St. Andrews University Chemical Society; October 17th, Royal Institute of Chemistry Lecture, " Biosynthetic Pathways," by Professor J. N. Davidson, at University College, Dundee; October 23rd, Lecture, "Substitution Reactions at an Aromatic Carbon Atom," by Professor D. H. Hey, at University College, Dundee; October 31st, Lecture, " Some Organic Compounds of Sulphur of Natural Occurrence," by Professor F. Challenger, joint meeting with St. Andrews University Chemical Society; November 14th, Lecture, "Hairs, Muscles, and Bacterial Flagella," by Professor W. T. Astbury, joint meeting with the St. Andrews University Chemical Society; November 28th, Royal Institute of Chemistry Lecture, "Alchemy and Art," by Professor John Read, at University College, Dundee; December 4th, Lecture, "Some Recent Progress in the Synthesis of New Types of High-polymer Molecules," by Professor H. W. Melville, at University College, Dundee.

Sheffield. At the University: joint meetings with the University Chemical Society, unless otherwise stated: January 31st, Lecture, " Some Relations between Crystal Structures," by Dr. A. F. Wells; February 21st, Lecture, " Some Recent Contributions of Organic Chemistry to Medicine," by Dr. J. Walker; March 6th, Lecture, "The Molecular Orbital Theory of Organic Chemistry," by Professor M. J. S. Dewar; April 24th, Lecture, " Recent Developments in Photochemistry," by Professor R. G. W. Norrish; November 13th, Lecture, " Some Recent Progress in Natural Product Research," by Dr. D. H. R. Barton; November 27th, Lecture, "The Origin of Meteorites," by Professor F. A. Paneth, joint meeting with the Royal Institute of Chemistry.

Southampton. Joint meetings with the University Chemical Society at the University : March 7th, Lecture, " The Mechanism of the Breakdown of Macromolecules," by Professor H. W. Melville; March 14th, Lecture, "The Biochemistry of Fluoroacetate Poisoning," by Sir Rudolph Peters; May 16th, Lecture, "The Application of Electric Dipole Moment Measurements to Chemical Problems," by Dr. L. E. Sutton; October 24th, Lecture, "Atoms in Cages," by Mr. H. M. Powell; November 21st, Lecture, "The Nature of the Co-ordinate Link," by Dr. J. Chatt (with the Royal Institute of Chemistry) ; December

5th, Lecture, " The Transfer of Hydrogen between Organic Compounds," by Professor R. P. Linstead, joint meeting with the Portsmouth and District Chemical Society at Portsmouth Municipal College.

South Wales. At University College, Swansea, unless otherwise stated : February 6th, Lecture, "The Scientific Examination of Paintings," by Dr. A. E. Werner, at University College, Cardiff; March 7th, Lecture, "The Development of Organic Chemistry during the 20th Century," by Sir Ian Heilbron, joint meeting with University College of Swansea Chemical Society; March 14th, Lecture, "The Combination of Metals and Non-metals," by Dr. U. R. Evans, joint meeting with the Royal Institute of Chemistry and University College of Swansea Chemical Society; April 25th, Lecture, "Acetylenic Compounds," by Professor E. R. H. Jones, joint meeting with University College of Swansea Chemical Society; October 20th, Lecture, " Some Recent Developments in Free-radical Chemistry," by Dr. W. A. Waters, at University College, Cardiff; October 31st, Lecture, "Chemical Research at Harwell," by Dr. R. Spence, joint meeting with the University College of Swansea Chemical Society and the Royal Institute of Chemistry; November 17th, Lecture, "Some Recent Developments in the Investigation of Radical Reactions," by Professor H. W. Melville, at University College, Cardiff; November 21st, Lecture, "The Transfer of Hydrogen between Organic Compounds," by Professor R. P. Linstead, joint meeting with the University College of Swansea Chemical Society.

## APPENDIX B.

## ANNUAL REPORT OF THE JOINT LIBRARY GOMMITTEE FOR THE YEAR 1952

During the year 1952, attendances by readers numbered 10,562 , against 10,489 the previous year. The average daily attendance was thus over 36. This increase is the more striking because of the smallness of the Reading Room and the fact that it is at the top of the building and can only be reached by walking up the stairs. The number of books borrowed showed a decrease of 388, and the number of photostat pages copied (3607) was 506 fewer than in 1951. Telephone enquiries numbered 2368, a reduction of 49. During the year 378 books were added to the Library, of which 88 were presented. 716 complete volumes of periodicals were added, and 202 pamphlets. The Library now contains 53,738 volumes, of which 16,531 are books and 37,207 are complete volumes of periodicals. Arrears of binding have again been reduced, and a large number of old periodicals has been rebound.

|  |  |  |  | Additions. |  |
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|  | Attendances. | Books borrowed. | Books. | Volumes of periodicals. | Pamphlets. |
| 1952 | 10,562 | 8703 (3526 by post) | 378 | 716 | 202 |
| 1951 | 10,489 | 9091 (3795 by post) | 358 | 712 | 366 |

Practical training in special librarianship has been given to students preparing for professional examinations, and others have visited the Library to study the methods used.

Further revision and re-arrangement of books in various rooms has taken place, in order to make the best possible use of all space, and when this is completed it is proposed to present a clear statement on the position, which is one of grave difficulty.

Gifts of books, both historical and new, continue to be received, and form most welcome additions to the Library, and to all Fellows, Publishers, and others who have kindly enriched the Library in this way, the Committee tenders its grateful thanks.
THE CHEMICAL SOCIETY

Income and Expenditure Accounts for the Year ended 31st December, 1952.

Income and Expenditure Accounts for the Year ended 31st December, 1952.

Income and Expenditure Accounts for the Year ended 31st December, 1952.

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Income and Expenditure Accounts for the Year ended 31st December, 1952.



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Income and Expenditure Accounts for the Year ended 31st December， 1952.

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Income and Expenditure Accounts for the Year ended 31st December, 1952.

the chemical society

Balance Sheets, 31st December, 1952

Balance Sheets, 31st December, 1952.

Balance Sheets, 31st December, 1952.

Balance Sheets, 31st December, 1952.

Balance Sheets, 31st December, 1952.

SCHEDULE OF INVESTMENTS.




STAFF PENSIONS FUND.



SCHEDULE OF INVESTMENTS.


