



INDEX



**PRESENTED**

**15 DEC 1939**



PROCEEDINGS  
OF THE  
Bournemouth  
Natural Science  
Society.

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VOL. XXXII.

---

SESSION 1939-40.





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Bournemouth  
Natural Science Society.

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## Introductory Note.

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THE Bournemouth Natural Science Society was founded in 1903, being the successor to an older society which was formed in 1883 and dissolved in 1897. The early meetings of the Society were held in a room hired from time to time for the purpose, but the need for some fixed quarters was soon felt. To meet this need a small room was taken at 122 Old Christchurch Road, and, as this proved inadequate, in February, 1909, better accommodation was secured at Granville Chambers and retained for four years. In March, 1913, the Society took on lease from the Education Committee a large room on the ground floor of the Municipal College. In 1919 this also had to be given up, and the Society succeeded in acquiring a house of its own, 39 Christchurch Road. The formal opening was on February 7, 1920. In 1929 a Lecture Hall was added, and the ground floor of the old building reconstructed. The work was completed and the New Hall inaugurated on October 14, 1929.

The objects of the Society are declared by the second of its rules to be "the promotion of the study of Science in all its branches, by means of Lectures, Field Meetings, the Reading and Discussion of Papers, and the formation of Sections of its members devoted to any particular branch of the Society's work, and in any way that the Council of the Society shall deem advisable.

The Sections at present working are as follows:—  
**Archæological and Historical, Astronomical, Botanical, Entomological, Geographical, Geological, Microscopical, Photographical and Record, Physical, and Zoological.**

During the WINTER SESSION, from October to April, GENERAL and SECTIONAL MEETINGS are held, comprising Lectures and Demonstrations on subjects of scientific interest, illustrated by lantern slides, diagrams, specimens or experiments.

All meetings are open to all members of the Society.

Throughout the SUMMER SESSIONS, EXCURSIONS to places of interest in the neighbourhood are arranged and indoor or garden meetings occasionally held.

The management of the Society is vested in a Council, which is elected at the Annual General Meeting, held in October.

The Society possesses a Library available for the use of members. This is yearly becoming more extensive and valuable by the acquisition of standard text books and of books dealing with matters of local scientific interest. Books may, under certain conditions, be borrowed by members, and there is a Reading Room in which works of reference may be consulted.

The Society's collections of archæological, botanical, geological, zoological and other specimens are now arranged in the MUSEUM. Articles on the collections were contributed to Vols. V. X. and XVII. of the Proceedings by Sir Daniel Morris, Mr. W. G. Wallace and Rev. C. O. S. Hatton respectively.

Members are elected by the Council and pay an annual subscription of £1 for full membership (admitting to all meetings and excursions for the year), a subscription of £2 covers four adult members of the same family residing in the same house.

A MONTHLY NOTICE, giving full details of all meetings, etc., is posted to every member before the beginning of each month, and a volume of Proceedings is published every year.

**Application Forms for Membership, and further particulars, can be obtained from the**

**HON SECRETARY,**

**Bournemouth Natural Science Society,  
39 Christchurch Road,  
Bournemouth.**



# Bournemouth Natural Science Society.

## OFFICERS AND COUNCIL, 1939-40.

### President

W. G. AITCHISON ROBERTSON, M.D., D.Sc., F.R.C.P., Etc.

### Vice-Presidents

G. BRUMELL, A.R.I.B.A.	REV. F. C. R. JOURDAIN,
HENRY BURY, M.A., F.L.S., F.G.S.	M.A., F.Z.S., M.B.O.U.
PROF. J. CAMERON, M.D., D.Sc., F.R.S.E.	MISS MARCIA PENROSE, B.Sc.
G. E. J. CRALLAN, M.A., M.B., M.R.C.S.	HEYWOOD SUMNER, F.S.A.
L. BEECHING HALL, F.L.S.	J. R. WHITE, M.A.

### Chairman of Council

HENRY BURY, M.A., F.L.S., F.G.S.

### Deputy-Chairman of Council

W. C. SIMMONS, B.Sc., A.R.C.S., F.G.S.

### Council

#### THE OFFICERS AND CHAIRMEN OF SECTIONS (ex-officio)

F. BROAD, F.S.I.	MISS K. A. HUNKIN, B.A.
G. BRUMELL, A.R.I.B.A.	MRS. M. G. JAMES
E. ST. JOHN BURTON, F.G.S., F.R.S.A.	MISS M. PENROSE, B.Sc.
J. CAMERON, M.D., D.Sc.	W. G. A. ROBERTSON, M.D., D.Sc.
H. DE CASTRO	H. J. WADLOW
MISS C. H. FRYER	G. G. WREN

### Chairmen of Sections

Archæological and Historical: F. L. LOWTHER, B.A.  
 Astronomical: INSTR.-CAPT. M. A. AINSLIE, R.N., M.A., F.R.A.S.  
 Botanical: L. BEECHING HALL, F.L.S.  
 Entomological: S. C. S. BROWN, L.D.S., R.C.S.  
 Geographical: W. J. WOODHOUSE, A.C.P.  
 Geological: HENRY BURY, M.A., F.L.S., F.G.S.  
 Microscopical: M. McDougall, M.A., B.S.  
 Photographical and Record: S. WHITAKER.  
 Physical: W. H. MARSH, B.Sc.  
 Zoological: S. C. S. BROWN, L.D.S., R.C.S.

### Hon. Treasurer

A. J. PARSONS, M.R.S.T.

### Secretaries

*Hon. Secretary:* W. J. WOODHOUSE, A.C.P., M.I.H.,

*Assistant Secretary:* MISS K. A. HUNKIN, B.A.

### Hon. Librarian

S. WHITAKER.

**Hon. Editor**

J. R. WHITE, M.A.

**Hon. Curator**

W. C. SIMMONS, B.SC., A.R.C.S., F.G.S.

**Hon. Auditors**

F. BROAD, F.S.I., J. C. WOODS.

**Bankers**

NATIONAL PROVINCIAL BANK OF ENGLAND, BOURNEMOUTH.



# List of Members.

Revised to November 5, 1940.

\* HONORARY MEMBERS.

† PAST PRESIDENTS.

o ORIGINAL MEMBERS.

L LIFE MEMBERS.

G MORRIS GOLD MEDALLIST.

A ASSOCIATE MEMBERS.

The year of election is given before the name of each member.

## A

- |      |  |  |
|------|--|--|
| 1932 | Abbott, A. H.  | Portman Cottage, 755 Christchurch Road   |
| 1932 | Abbott, Mrs.   |  |
| 1927 | Adkins, H.   | Glenavon, 107 Alumhurst Road             |
| 1935 | Ainslie, Instr.-Capt., M.A., R.N.,<br>B.A., F.R.A.S. | Grenville, Talbot Drive, Wallisdown      |
| 1933 | Andrews, Rev. P. T., M.A.                            | Foxwold, 34 Belle Vue Road, Southbourne  |
| 1937 | Ansell, Miss E. M.                                   | 53 St. Catherine's Road, Southbourne     |
| 1933 | Anthony, Miss C. H.                                  | 14 Iddeleigh Road                        |
| 1937 | Asquith, Miss K.                                     | 2 Warwick Court, Hawkwood Road, Boscombe |

## B

- |       |   |   |
|-------|---|---|
| 1939  | Bailey, E.                                    | A22, San Remo Towers, Boscombe              |
| 1937  | Baker, C. A., M.I.E.E.                        | Clieveden, 36 The Avenue, Branksome Park    |
| 1937  | Baker, Mrs. L. M.                             |   |
| 1940  | Baker, Miss L. R.                             | Stafford Court, 25 Surrey Road              |
| 1936  | Banham, Miss                                  | 16 Aylestone Road, Cambridge                |
| 1930  | Banks, R. McLachlan, M.B.,<br>C.M., D.P.H.    | 35 Norwich Avenue                           |
| 1935  | Banks, Mrs.                                   |   |
| 1912  | <sup>A</sup> Barraclough, A., M.A., F.R.G.S.  | 93 East Avenue                              |
| 1936  | Barran, Sir Rowland                           | Lindsay Hall, Lindsay Road                  |
| 1927  | Bater, G. W., B.A.                            | 22 Dingle Road                              |
| 1939  | Bates, T. W.                                  | 35 Talbot Avenue                            |
| 1939  | Bates, Mrs. F.                                |   |
| 1920  | Bennett, Risdon, M.A.                         | Yew Tree Cottage, Broadstone                |
| 1935  | Bigg, Mrs. W.                                 | Ladies' National Club, 24 Poole Road        |
| 1937  | Bolt, Mrs. R. M.                              | Shenstone, Westerham Road, Westbourne       |
| 1920  | Borrett, Surg.-Capt. G. G., R.N.              | Church Lane, Wool, Wareham                  |
| 1938  | Bottomley, Dr. F. C.                          | 1 Beechwood Avenue, Boscombe                |
| 1929  | Bourdass, Miss A.                             | 7 Beaulieu Road                             |
| 1929  | Bourdass, Miss F.                             |   |
| 1920  | <sup>A</sup> Bourne, Miss C. M.               | Lynn, Suffolk Avenue, Christchurch          |
| 1930* | <sup>†</sup> Bower, Prof. F. O., D.Sc., F.R.S | 2 The Crescent, Ripon                       |
| 1940  | Boyle, P. L.                                  | 1 Newton Crescent, Parkstone                |
| 1937  | Braby, Newton                                 | Purewell Hill, Somerford Road, Christchurch |
| 1937  | Braby, Mrs. E. M.                             |   |
| 1940  | Bramall, Mrs. F. E.                           | The "Grey House", 46 East Avenue            |
| 1938  | Brearley, Miss Ethel                          | 5 Hengist Road, Boscombe                    |

- 1931 Bright, Percy M., J.P.  
 1926 Broad, F., F.S.I.  
 1921 Bromley, Miss  
 1940 Brotherton, Comdr. M., R.N.  
 1937 Brown, Miss B. L.  
 1917 Brown, Mrs. Edward  
 1937 Brown, S. C. S., L.D.S., R.C.S.,  
 H.D.D.  
 1940 Brown, W. D. H.  
 1905 \*Brumell, G., A.R.I.B.A.  
 Hon. Member 1933  
 1920 Brumell, Miss M.  
 1920 Bryant, Miss M.  
 1936 Buchanan, Miss M.  
 1929 Buckingham, H.  
 1939 Buckingham, Miss D. G.  
 1937 Bunce, Miss A.  
 1937 Bunce, Miss F.  
 1929 Burge, J. T.  
 1934 Burroughs, Mrs. I. F.  
 1937 Burrow, Mrs. D. M., B.S.C.,  
 P.H.D.  
 1922 Burton, E. St. J., F.G.S., F.R.S.A.  
 1922 †Bury, Henry, M.A., F.L.S., F.G.S.  
 1930 Bury, Miss G. E.  
 1930 Bury, Miss G. J.  
 1937 Butt, Miss E. A.  
 1940 Bynner, Miss C. F.  
 Nethercourt, 60 Christchurch Road  
 Manton Villa, 2 Oxford Road  
 81 Lansdowne Road  
 Midlothian Hotel, St. Michael's Road  
 Kismet, 28 Keswick Road, Boscombe  
 West Ridge, 50 Chessel Avenue  
 Kingsholme, 454 Christchurch Road, Bos-  
 combe  
 12 Clifton Road, Parkstone  
 Maori, 86 Richmond Park Avenue  
 Sunnyhill, Hampden Lane, W. Southbourne  
 Chester House, Chine Crescent  
 25 Parkstone Avenue, Parkstone  
 Glenhurst, Braeside Road, West Moors  
 High Bank, Braidley Road  
 107 Alumhurst Road  
 St. Anne's, Seaward Avenue, Barton-on-Sea  
 The Gate House, 17 Alumdale Road  
 " " " "  
 Eastwood, 7 St. Winifred's Road  
 10 Aylesbury Road, Boscombe

## C

- 1928 L Calkin, J. B., M.A.  
 1934 †Cameron, J., M.D., D.S.C.  
 1934 Cameron, Mrs. J., J.P.  
 1940 Cameron, Miss M. E.  
 1919 Cardew, R. K., B.A.  
 1939 †Carpenter, Prof. G. D. Hale,  
 M.B.E., D.M., F.L.S., F.Z.S.  
 1932 Chambers, W. H.  
 1940 Champion, Miss L.  
 1912 A Chilver, Miss K. M.  
 1931 Clark, Miss K. E.  
 1940 Clarke, Miss A. M., B.A., M.R.S.T.  
 1936 Clarke, Miss Bertha, M.A.  
 1927 \*Clay, R. C. C., M.D., F.S.A.  
 1933 Collings, T. G.  
 1928 Constantine, M. H.  
 1926 Cooper, H. A.  
 1926 L Cooper, J. S.  
 1940 Couchman, Miss E. E.  
 Wychwood School  
 Balmashanner, Grove Road  
 The Outlook, Canford Cliffs  
 Stafford Lodge, 26 Dean Park Road  
 Penguelle, Cumnor Hill, Oxford  
 14 Douglas Road, Southbourne  
 Manor House Hotel, Manor Road  
 2 Shaftesbury Road  
 15a St. Mary's Road  
 Ascham House, Gervis Road East  
 64a Parkwood Road, Boscombe  
 The Manor House, Fovant, Wilts  
 54 Parkwood Road, Boscombe  
 Brendon, Nairn Road  
 25 Talbot Avenue  
 The Little Red House, Colehill, Wimborne  
 Campbell House, Campbell Road, Bos-  
 combe  
 1903 †o Crallan, G. E. J., M.A., M.B.,  
 M.R.C.S.  
 1922 Crallan, Mrs.  
 1935 Cross, Miss F. C.  
 1934 Croucher, Miss J. M.  
 1931 Curgenvin, Miss A. J.  
 1928 Curtis, E. A., L.D.S.  
 1928 Curtis, Mrs.  
 1928 Curtis, E. J. B., L.D.S.  
 1903 †o Curtis, W. Parkinson, F.E.S.  
 Hon. Member 1922  
 Country House Hotel, Crowborough, Sussex  
 59 Strouden Avenue  
 Little Stanpit, Christchurch  
 6 Suffolk Road  
 Holm Dene, Poole Road  
 " "  
 " "  
 17 Christchurch Road



## D

- 1927 Dacombe, J. M. J. Gosfeld Cottage, Winkton, Christchurch  
 1933 Daimpré, Rev. I. D. D. St. Mary's Vicarage, Morden, Wareham  
 1935 Daimpré, Mrs. G. H. " " "  
 1938 Davies, C. W., M.R.C.S., L.R.C.P. 33 Portchester Road " " "  
 1938 Davies, Mrs. F. E. " " "  
 1938 Davies, Miss F. B. " " "  
 1937 Dawes, Mrs. F. E. 24 Parkwood Road, Boscombe  
 1930 de Castro, H. Yarlington, Springdale Avenue, Broadstone  
 1933 de Castro, Mrs. " " "  
 1935 Derry, Mrs. E. H. Charnwood, Belle Vue Road, Southbourne  
 1910 Dodshon, E., LL.B. 124 Old Christchurch Road  
 1928 Drew, Lt.-Col. C. D., D.S.O., Loud's Piece, Wareham Road, Dorchester  
 F.S.A.  
 1925 Druitt, Miss C. M. 99 Lowther Road  
 1925 Druitt, Miss C. S. " " "  
 1926 Dundee, Mrs. 38 Portchester Road  
 1921 Dunn-Gardner, R. C. 3 Stanhope Gardens, S.W.7

## E

- 1936 Edwards, Charles, M.D. Lyndon Lodge, 51b Christchurch Road  
 1936 Edwards, Mrs. H. " " "  
 1935 Elgar, Rev. A. J., F.Z.S. Forest House, 1 Grove Road " "  
 1935 Elgar, Mrs. E. M. K., F.R.G.S. " " "  
 1935 Elgar, Hugh " " "  
 1935 Elgar, Ronald " " "  
 1937 Evans, John, M.R.C.S., L.R.C.P. South View, Vectis Road, Barton-on-Sea  
 1936 Evans, Mrs. S. F. 1 Balcombe Court, Balcombe Road, Brank-  
 some Park  
 1927 Exon, C., M.A. 12 Douglas Road, Southbourne

## F

- 1919 Farnar, Mrs. K. A. Whitton Lodge, Stevenson Crescent, Park-  
 stone  
 1922 Farnar, Miss E. A. E 22 "San Remo" Towers, "Boscombe"  
 1937 Farmer, Miss A. Daneshill, 85 Queen's Park Avenue  
 1927 Finlinson, F. J. Riversdale, Poole Road, Wimborne  
 1934 Finnis, Miss F. M. Windward, Mayfield Avenue, Parkstone  
 1939 Follett, Mrs. B. 3 Harvey Road, Boscombe  
 1938 Ford, J. C. Hiproof, Benellen Road  
 1937 Forrest, Miss C. D. Vron, 30 Mansfield Road, Parkstone  
 1925 Fountain, E. D., L.R.C.P., M.R.C.S.  
 1919 Fowler, Miss M. L. Lerryn, Chessel Avenue, Boscombe  
 1923 Fryer, Miss C. H. Moulton, 46 Wellington Road

## G

- 1937 Gallaher, Miss M. L. 16a Crabton Close Road, Boscombe  
 1926 Gardiner, H. L. Granville Court Hotel, East Cliff  
 1939 Gardner, G. B., F.R.G.S. Southridge, Highcliffe, Christchurch  
 1934 Geake, W. E. 6 Hathaway Road, Southbourne  
 1934 Geake, Mrs. " "

1927 Gorton, B., M.R.C.V.S.  
 1936 Green, J. F. N., B.A., V.P.G.S.  
 1936 Grieveason, Miss S.  
 1940 Grimes, Miss E. R., M.R.S.T.  
 1917 Grindley, Miss E. J.

22 Arnewood Road, West Southboburne  
 Gabriel Court Hotel, Stoke Gabriel, Devon  
 24 Surrey Road  
 Avenue Cottage, Highcliffe, Christchurch  
 67 Princess Road

## H

1931 Haines, Mrs. E. M.  
 1929 Haines, G. F.  
 1930 Haines, H. H., C.I.E., F.L.S.  
 1931 Haines, Miss E. S.  
 1924 Hall, L. Beeching, F.L.S.  
 1937 Hall, Mrs.  
 1940 Hall, Mrs. W.  
 1933 Harding, H. F.

Appleslade, Ringwood  
 602 Christchurch Road  
 Glyn Cogan, Berriew, Mont.

Bryn Aird, Blake Hill Crescent, Parkstone

Bodorgan " " " " " "  
 Heather Glen, Western Road, Branksome  
 Park

1934 Harding, Mrs.  
 1934 Harding, G. F.  
 1934 Harding, Miss G. J.  
 1937 Harding, R.  
 1913 Harris, Miss K.  
 1912 Harrison, Henry  
 1940 Harvey, W. G.  
 1932 \*Hatton, Mrs.  
 1920 Hawes, Miss  
 1917 Haydon, C. J.  
 1909 Hayes-Barratt, J.  
 1940 Heasman, Miss

" " " "  
 " " " "  
 " " " "  
 " " " "  
 3 Portchester Road  
 Trescott Grange, Harvey Road, Boscombe  
 Beck Cottage, Grinton, Yorks  
 3 The Triangle  
 Dutch House, Cliff Road, Barton-on-Sea  
 The Moorings, 27 Nelson Road  
 Ben Veula, 29 West Cliff Road  
 16a St. Augustine's Road  
 Worth Cottage, St. Clair Road, Canford  
 Cliffs

1934 Hellier, M., O.B.E.  
 1932 Hemmy, A. S., B.A., M.Sc.  
 1917 Henderson, Miss A. J.  
 1928 Henderson, Major H. E.  
 1928 Henderson, R. G., M.A., M.B.,  
 CH.B. (Aber.), F.R.C.S. (Edin.)  
 1932 Henderson, Mrs.  
 1931 Herklots, Mrs.

Moorside, 20 Madeira Road  
 Anarkali, 45 Elgin Road  
 Springbank, 22 Fox Street, Greenock  
 Tall Trees, 21 Wayside Road, Southbourne  
 87a Southbourne Road

" " " "  
 Highland House, Highland Road, Barton-  
 on-Sea  
 Northfield, Chigwell Road  
 Southland, Corfe Castle  
 25 Foxholes Road, Southbourne  
 Cone Cottage, 33 Twynham Road, South-  
 bourne  
 Cotford, Knyveton Road  
 Flat 31, Ingleby, 6 Wimborne Road

1923 Hill, C. S.  
 1929 Hooper, Miss M. N.  
 1936 Hunkin, Miss K. A., B.A.  
 1932 Hunt, Mrs. P.  
 1940 Hurrell, H. E., F.R.M.S.  
 1930 Hurt, Miss C. E. C. J.

1925 Insch, J. M.

18 Beechwood Avenue, Boscombe

## I

## J

1940 Jackson, Miss E. M., B.A.  
 1933 James, Mrs. M. G.  
 1930 Jefferys, J. H.  
 1936 Jervois, Mrs. E.

Kilmory, York Road, Broadstone  
 70 St. Alban's Avenue  
 Elpis, 43 Caledon Road, Parkstone  
 29 Chessel Avenue, Boscombe

1933 Johnson, Miss A. C.  
 1930 Jones, Miss A. Parnell  
 1930 Jones, Mrs. W.  
 1930 Jubb, Miss O.

Rivelin, 25 Avenue Road, Christchurch  
 Menstone, Frankland Crescent, Parkstone  
 1 Park Road  
 12 Oban Road

## K

1937 Keay, D. D.  
 1930+\*Keeble, Sir F. W., K.B.E., D.S.C.,  
 F.R.S.  
 1940 Kemp, A. M., L.D.S., R.C.S.  
 1929 Kendall, Mrs.  
 1928 Kendall, Miss G. J., A.R.C.M.  
 1939 Kentish, Mrs. E. G.  
 1935 Keutgen, E.  
 1937 Kidd, D. J.  
 1927 Kilburn, Miss Alice M.  
 1927 Kilburn, Miss Annie  
 1936 King, Mrs. A.  
 1939 King, F. H.  
 1937 Kirkmann, Miss Maud  
 1939 Knight, Miss S. A.

4 Berkeley Road, Winton  
 Hammels, Boars Hill, Oxford  
 71 Richmond Park Avenue  
 20 Serpentine Road, Poole  
 Talbot Dene, "19 Rothesay Road  
 Anglo-Swiss Hotel, Gervis Road East  
 33 Bath Hill Court  
 9 Glenmoor Road, Winton  
 37 " " " " " " " "  
 " " " " " " " "  
 REXDENE, Western Road, Branksome Park  
 26a New Park Road  
 Ventana, Marine Drive, Barton-on-Sea

## L

1932 Laxon, E. A.  
 1933 Leach, W. J.  
 1929 A Lee, Miss L., LL.A., F.R.G.S.,  
 F.A.G.S.  
 1940 Lindup, Mrs. O. L.  
 1940 Lindup, Miss J.  
 1923 Littlewood, Eng.-Capt. A. W.,  
 R.N., O.B.E., Chevalier Legion  
 of Honour.  
 1928 Longbottom, Mrs.  
 1939 Lowde, Miss E., B.A.  
 1932 Lowther, F. L., B.A.  
 1934 A Lowther, Miss D. M., B.Sc.  
 1903\*oLupton, Miss  
 1910 Lyon, Mrs. C

The Ramblers, Ashley, New Milton  
 43 Browning Avenue, Boscombe  
 69 Walpole Road  
 Clieveden, 36 The Avenue, Branksome  
 Park  
 28 " " " " " "  
 " " " " " "  
 Haslemere, Penrith Road, Boscombe  
 Kilmory, York Road, Broadstone  
 Lonsdale, Mayfield Avenue, Parkstone  
 The "Cottage, St. Johns Road, Sandown,  
 I.W.  
 Shalimar, Wilderton Road, Branksome  
 Park

## M

1908 Mackay, Miss  
 1929 Mackay, Miss C. J.  
 1937 McArthur, Mrs. H. A.  
 1909 McBean, Miss S.  
 1932 McDougall, M., M.B., B.S.  
 1932 McDougall, Mrs.  
 1935 McMichael, E.  
 1940 Maclean, Miss A. L.  
 1940 Maclean, Miss C.

8 King's Park Road  
 " " " " " "  
 Ravenscroft, Queen's Park Avenue  
 29 Parkwood Road, Boscombe  
 8 Dunkeld Road  
 " " " " " "  
 1 Branksome Wood Mansions, Branksome  
 Wood Road  
 16a Walpole Road, Boscombe  
 " " " "



- 1940 Making, M. 61 Howard Road  
 1930+\*Malmesbury, The Rt. Hon. the Earl of, D.L., J.P. Heron Court, Christchurch  
 1931 Marsh, W. H., B.Sc. Archways, 11 Mount Pleasant Lane, Ringwood  
 1936 Marsh, Miss M. F., B.Sc. 58 "Stirling Road" "  
 1913 Martin, Miss F. G. 10 Landseer Road  
 1921 Mate, Mrs. S. J. Alfreda, Broad Avenue, Castle Lane  
 1930 Medwin, Miss G. L., M.B.E. Hinton Admiral, Christchurch  
 1929 Meyrick, Sir George, BART. Tregenna, Castle Lane  
 1939 Middle, Miss A. M. Branksea Tower, Osborne Road, Parkstone  
 1930 Miller, Dr. A. H. Sunnycroft, 15 Penrith Road, Boscombe  
 1926 Miller, Miss W. F., B.A. Radegund, Pennington, Lymington  
 1937 Milne, R. M. 109 Edgehill Road  
 1934 Mitchell, Miss E. A. 8 Grovelly Road  
 1937 Moore, E. J. F., M.D. "  
 1937 Moore, Mrs. L. "  
 1922 Moore, Major T. C., I.M.S. Dormy Hotel, Ferndown  
 1937 Morris, Brig.-Gen. G. M., C.B., D.S.O. The Grange, 52 Westby Road  
 1908 Moss, Miss 4 Dingle Road, Boscombe  
 1929 Mott, Lady Woodside, Pinewood Road, Ferndown  
 1940 Mountfort, C. C., M.A. "  
 1940 Mountfort, Mrs. A. Rosemaryne, 111 "Edgehill Road"  
 1932 Mullins, Miss D. E. A. 3 Rotherfield Road  
 1936 Murdoch, Miss J. C. 25 East Avenue  
 1935 Muspratt, C. K., B.A., F.R.G.S. "  
 1935 Muspratt, Mrs. "

## N

- 1939 Nevins, T. H. W. 42 Malmesbury Park Road  
 1940 Newland, Miss B. E. 86 Belle Vue Road, Southbourne  
 1939 Newsome, S. H. "  
 1939 Newsome, Mrs. "  
 1938 Nix, Miss M. M. 66 Strouden Avenue

## O

- 1929 Ogden, Miss E. Southland, Corfe Castle  
 1910 Oke, A. W., B.A., LL.M., F.G.S., F.S.A. 32 Denmark Villas, Hove  
 1940 Oliver, W. G., R.N., L.D.S., R.C.S., F.R.A.S. 63 King's Avenue, Parkstone  
 1922 Ousby-Trew, Miss Overthorpe, Michelgrove Road, Boscombe  
 1929 Owen, Mrs. 59 Manor Road  
 1929 Owen, J. D. Barnweill, 42 Strouden Avenue  
 1929 Owen, Miss M. D. "  
 "

## P

- 1928 Parry, Miss A. K. Tilneyhirne, St. John's Road, Boscombe  
 1934 Parsons, A. J., M.R.S.T. Parva, 32 Morrison Avenue, Westbourne  
 1936 Parsons, Mrs. A. C. "  
 1939 Parsons, Miss D. M. 37 Seamoor Road, "Bournemouth" West  
 1938 Parsons, Miss S. Bingley Moors, Queen's Park  
 1926 Paterson, Miss N. Corfe Lodge, Parkstone

- 1924 Pattinson, Mrs. 35 Bath Hill Court  
 1916 Penrose, Mrs. Woodbury, 11 Grove Road  
 1916 Penrose, Miss F. " " "  
 1916 Penrose, Miss M., B.Sc. " " "  
 1929 Phelps, Mrs. J. V. Woodbury, East Avenue  
 1939 Pickford, Mrs. E. M. Mount Pleasant, Hampden Lane, Pokes-  
 down  
 1934 Pickup, E. A. 24 East Avenue  
 1935 Pinder, T. Dunster, Howard Road  
 1921 Pontifex, R. D., M.A. Dalton House, 68 Christchurch Road  
 1939 Pope, Miss R. E. Southernhay, Cambridge Road  
 1926 Potter, Rev. Prof. M. C., M.A., D.Sc. Corley Croft, York Avenue, New Milton  
 1930+\*Prain, Lt.-Col. Sir David, The Well Farm, Warlingham, Surrey  
 C.M.G., C.I.E., F.R.S.  
 1940 Priestley, A. Pine Grange, Bath Road  
 1940 Pushman, J. C. Worth Matravers, Swanage

## Q

- 1924 Quick, Mrs. Tregenna, Castle Lane

## R

- 1927 Raine, A. D. Milverton, Lymington  
 1927 Raine, Mrs. " "  
 1912 \*Rankin, W. Munn, M.Sc. Municipal College, Burnley, Lancs.  
 (Leeds), B.Sc. (Lond.)  
 Hon. Member 1920  
 1918 Ratcliffe, Mrs. Brooklands, 32 Branksome Wood Road  
 1936 Ray, W. T. 24 Alyth Road  
 1919 Rayner, Miss F. 35 East Avenue  
 1905 \*Rayner, J. F., M.B. MYC. S. Arlesey, Westerham, Kent  
 1935 Reid, A. H. G. 29 Newstead Road, Southbourne  
 1932 Reid, Mrs. F. E. A. " " "  
 1924 \*Reid, Mrs. E. M., B.Sc., F.L.S. Pinewood, Milford-on-Sea  
 1938 Reid, J. W. Westminster Hall, Beacon Road  
 1919 A Richards, Miss E. E., B.Sc. 8 Overcliff Mansions, Manor Road  
 1928 Richards, Mrs. E. M. Flat 51, Hampshire Court  
 1931 Richardson, Miss I. M. 87 Cranleigh Road  
 1936 Ringrose, B. J. Farley, Harbridge, Ringwood  
 1936 Ringrose, Mrs. " " "  
 1926 Rix, Miss M. E. de B. Wayside, Stourcliffe Avenue  
 1916 Roberts, H. Astley, B.A. Shalvah, 18 Wilfred Road, Boscombe  
 1938 Roberts, E. 33 Brackendale Road  
 1924 +Robertson, W. G. A., M.D., St. Margaret's, St. Valerie Road  
 D.Sc., F.R.C.P., F.R.S. (Edin.),  
 F.S.A. (Scot.)  
 1934 Robertson, Mrs. M. K. A., M.D., " "  
 L.R.C.P., F.R.S.G.S.  
 1939 Robins, E. A., F.R.P.S., F.L.S., Fairway, Stanley Road, Waterford, Lym-  
 F.R.M.S. ington  
 1929 Robinson, Miss M. H. Byways, Chaddesley Glen, Canford Cliffs  
 1929 Robinson, Miss W. A. " " "  
 1923 Roden, Miss E. M. 12 Walpole Road, Boscombe  
 1938 Roden, Miss J. E. " " "  
 1936 Rooth, Mrs. A. V. Farm Cottage, Canford, Wimborne

- 1940 Rose, P. T. Glendemere, Barton Court Avenue, Barton-on-Sea  
 1933 Ross, Mrs. H. G. Dingwall, Priory View Road, Moordown  
 1916 Rothwell, Mrs. 6 Mount Heatherbank, Richmond Gardens  
 1935 Rush, Major J. S. 29 Lansdowne Road  
 1935 Rush, Miss C. J. " "

## S

- 1938 Saville, W. B. 22 North Street, Guildford  
 1931 Scudamore, C. E., B.A., L.R.C.P. 24 Hampshire Court  
 1939 Seeley, Mrs. Q. 20 Wimborne Road  
 1914 Sharp, C. Langdon, Parkstone  
 1919 Sharp, Miss E. " "  
 1940 Shaw, Mrs. M. 32 Wingfield Court, Manor Road  
 1933 Sheffield, Miss I. E. 177 Richmond Park Road  
 1937 Sherwood, Miss H. 264 Charminster Road  
 1938 Shirreff, Miss M. Forest Park Hotel, Brockenhurst  
 1932 Silvester, N. L., M.Sc., F.A.MET.S. East Cliff Hall  
 1937 Simmons, W. C., B.Sc., A.R.C.S., F.G.S. Trigonía, Spur Hill Avenue, Parkstone  
 1937 Simmons, Mrs. I. M. " "  
 1920 Simpson, N. Douglas, M.A., F.L.S., F.R.M.S. Maesbury, 3 Cavendish Road  
 1914 Smyth, W. Johnson, M.D. Killalief, 534 Holdenhurst Road  
 1915 Smythe, Mrs. Willstead, 22 Cavendish Road  
 1920 Smythe, Miss D. " "  
 1916 Smythe, Miss K. M. " "  
 1940 Somerville, Mrs. S. Rumah " Kechil, Pinewood Road, Ferndown  
 1938 Southorn, J. Hartley Oakfield, Belmore Lane, Lymington  
 1938 Southorn, Mrs. E. M. " "  
 1938 Spearman, Dr. B., O.B.E., M.A., M.B., B.C.L. 34 Solent Road, Southbourne  
 1932 Spence, W. G. The Shieling, Highlands Road, Barton-on-Sea  
 1932 Spence, Miss J. G. " "  
 1909 Spencer, J. F. Glenthorne, 73 Richmond Park Road  
 1923 Stables, A. D. Saxthorpe, St. Osmund's Road, Parkstone  
 1923 Stables, Mrs. " "  
 1923 Starr, Col. W. H., C.B., C.M.G., C.B.E. 4 Foxholes Road, Southbourne  
 1916 Stiff, S. J., B.Sc. Norden House, Corfe Castle  
 1916 Stiff, Mrs. " "  
 1916 Stiff, Miss M. J. " "  
 1924 Story, F. N. Storyland, Church Road, Southbourne  
 1938 Sugden, Miss A. Suffolk Court, Suffolk Road  
 1918G+\* Sumner, Heywood, F.S.A. Cuckoo Hill, South Gorley, Fordingbridge  
 1922 ASymes, H., M.A. 52 Lowther Road

## T

- 1940 Talbot, Rev. J., M.A. D22 San Remo Towers, Boscombe  
 1940 Talbot, Mrs. F. E. " "  
 1940 Taylor, E. O., B.A., B.Sc. 3 Hadden Road  
 1940 Taylor, Mrs. E. E. " "  
 1937 Terrell, G. H. 53 Wentworth Avenue, Boscombe  
 1925 Thomasson, Miss M. E. 37 Belvedere Road  
 1929 Thomson, A. G. A., M.A., M.B. 38 Wentworth Avenue, Boscombe  
 1932 Thomson, Mrs. " "



1936 Trayfoot, Mrs. L. W.  
 1940 Trench, C. G., B.A.  
 1939 Turner, Mrs. J. E.  
 1914 Twemlow, Miss E. E.

25 Eaton Road, Branksome Park  
 Links View, Canford Cliffs Avenue, Parkstone  
 4 Bourne Court  
 Devon Lodge, 83 Alumhurst Road

## V

1940 Vernon, A. F.  
 1918 Vorse, John

Leighurst, Walkford, Christchurch

## W

1924 Wadlow, H. J.  
 1921 Wales, Miss

The Gables, Queen's Grove, Parkstone  
 The Nook, 4 Ormonde Road, Branksome Park

1921 Wales, Miss N.  
 1940 Walker, Howard  
 1913 Wallace, W. G.  
 1937 Walters, Miss E.  
 1936 Waltham, T. Ernest  
 1920 L Wanstall, W. S.  
 1920 L Wanstall, Mrs.  
 1936 Warlow, Frank, L.D.S.  
 1936 Watkin, Ralph  
 1930 Webb, Mrs. F. J.  
 1936 Weekes, Mrs. M.  
 1940 West, Mrs. F. M.

16 "Fisherman's Avenue, West Southbourne  
 61 East Avenue  
 Uplands, Rowlands Hill, Wimborne  
 30 Lonsdale Road  
 Del Monte, 6 Roslin Road

1913 Wetherell, Miss M.  
 1920 Wetherell, Miss S.  
 1918 Whitaker, S.  
 1924 Whitaker, Miss E. M.  
 1924 Whitaker, S. E., P.A.S.I.  
 1920 White, J. R., M.A.  
 1931 A White, S. J.  
 1929 Whiteley, F. W.  
 1937 Willans, Miss C. M.  
 1939 Williams, C., O.B.E., M.A.  
 1939 Wilson, J. Spetch, F.R.G.S.  
 1940 Wimpres, J. P.  
 1903 O Woodhouse, W. J., A.C.P.,  
 M.I.H.

Thatched Eaves, Ibsley, Ringwood  
 Avila, Spur Hill Avenue, Parkstone  
 Melbury, 18 Soberton Road  
 3 Rotherfield Road  
 c/o Lloyd's Bank, 28 Fleet Street, London,  
 E.C.4.

1918 Woodhouse, Mrs.  
 1923 Woodhouse, W. R.  
 1923 Woodhouse, Miss M. M.  
 1931 Woods, J. C.  
 1931 Woods, Mrs.  
 1930\* Woodward, Sir A. Smith, F.R.S.,  
 F.L.S., F.G.S.  
 1932 Wren, G. G.

Triana, 31 Harvey Road, Boscombe  
 22 "Somerset Road, "Boscombe"  
 22 "Selwood Road, "Addiscombe, Croydon"  
 Whitecot, 15 Linwood Road  
 7 Gilbert Road  
 The Fells, West Lulworth, Dorset  
 E 22 San Remo Towers, Boscombe  
 The Close, Ringwood  
 Quetta, 33 Knyveton Road  
 4 Glenroyd Gardens, Southbourne  
 29 Twynham Road, Southbourne

" " "  
 " " "  
 " " "  
 Pine Croft, Rothesay Road  
 " " "  
 Hill Place, Haywards Heath, Sussex  
 264 Charminster Road

## Y

1939 Yates, Miss M. C.  
 1935 Young, Rev. A. W.

Wychcote, Somerville Road  
 542 Holdenhurst Road

To the Honorary Secretary,

**Bournemouth Natural Science Society,**  
39, CHRISTCHURCH ROAD, BOURNEMOUTH.

Dear Sir,

I beg to propose that

M.....

(Please give Christian name in full, and state title—Mr., Mrs., Miss, etc., and any degrees or qualifications.)

Address.....

.....  
\*who is personally known to me      be elected an \*Ordinary  
\*who has produced satisfactory credentials to me      \*Associate  
Member of the Society.

Date..... Member's Signature.....

I beg to second the above proposal

Date..... Member's Signature.....

\*Delete words not applicable.

## Annual Meeting, 1940.

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The thirty-seventh Annual Meeting of the Bournemouth Natural Science Society was held on Saturday, October 26th, 1940, at 3 p.m. Mr. Henry Bury, Chairman of Council, was in the Chair.

The business of the Meeting began with the reading by the Assistant Secretary, Miss K. A. Hunkin, of the Minutes of the Annual Meeting of 1939. These were approved, and signed by the Chairman.

The Assistant Secretary next read the Council's Report for the year ending September 30th, 1940, and the Hon. Treasurer, Mr. A. J. Parsons, read and explained his Statement of Accounts for the year. Mr. W. H. Chambers proposed the Adoption of the Report and Accounts, and the Rev. A. W. Young seconded the proposal, which was passed without dissent.

A Vote of Thanks to the retiring President, Dr. W. G. Aitchison Robertson, M.D., D.Sc., was proposed by Mr. F. L. Lowther, who said that Dr. Robertson had contributed invaluable services to all sections of the Society during his year of office. Dr. Robertson was possessed of a kindly and generous disposition, and a keen sense of humour, and these, coupled with his very high scientific attainments, had been always at the disposal of the Society. The Vote of Thanks was seconded by Miss M. Penrose, and passed with acclamation.

In his reply to the Vote of Thanks, Dr. Robertson expressed the deep sorrow felt by members at the death of Mrs. Henry Bury and their sympathy with the Chairman in his bereavement.

The Chairman next announced in a short speech the name of the President for 1940-41, the Rev. Professor M. C. Potter, M.A., D.Sc. Mr. Bury spoke of Professor Potter's wide knowledge of Botany, and his academic distinctions at Cambridge and Durham. The announcement was greeted with warm applause.

Mr. H. Adkins proposed the re-election of the Officers of the Society, and Mr. H. J. Wadlow seconded the motion, which was carried unanimously.

The Chairmen of Sections were next elected on the proposal of Dr. R. G. Henderson, seconded by Miss Parnell Jones. The new Chairmen were Mr. E. A. Robins for the Microscopical Section, Miss M. Penrose for the Physical Section, and Mr. S. C. S. Brown for the Zoological Section.



Since no additional nominations for election to the Council had been received, the five retiring members were re-elected. They were Mr. G. Brumell, Mr. E. St. J. Burton, Miss C. H. Fryer, Mrs. M. G. James, and Mr. H. J. Wadlow.

The Hon. Auditors for the previous year, Mr. F. Broad and Mr. J. C. Woods, were re-elected. Dr. C. E. Scudamore, who proposed the re-election, also expressed the gratitude of the Society to these gentlemen for their services. Mr. E. McMichael seconded the proposal.

The meeting ended with the passing of a Vote of Thanks to the Chairmen, proposed by Mr. S. Whitaker, and seconded by Mr. G. G. Wren. Mr. Whitaker paid tribute to Mr. Bury's ability and tact, as contributing in no small degree to the smooth operation of business meetings and the general welfare of the Society.



## Council's Report, 1940.

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OWING to war conditions, the Council had anticipated a considerable decrease in membership during the year; this decrease has occurred, although it has not been as large as might have been expected. The membership of the Society is now 404. Resignations during the year have totalled 62, there have been 42 new members, and 17 deaths. Many of those members who have resigned, however, have done so only for the duration of the war, so that the Society may look forward to an increase in membership in the future. Honorary members now number 15, original members 4, past presidents 11, life members 6, and associate members 12.

In February of this year, the Society lost one of its most famous and popular members, the Rev. F. C. R. Jourdain. Mr. Jourdain's death has deprived the world of a leading ornithologist, and the Society of a Deputy Chairman of Council and Chairman of the Zoological Section who had contributed much valuable work during his long membership. Mr. Jourdain was President of the Society from 1933-34, Deputy Chairman of Council from 1932 until his death, and Chairman of the Zoological Section from 1931.

The death last October of Mr. Richard Quick removed from the Society one who in former years had been a prominent figure. Mr. Quick held the office of Honorary Secretary from 1932-36, and his work is remembered with gratitude by the Council.

In September of this year there occurred the death, from a sudden heart attack, of Sir Harold Carpenter, who was President of the Society from 1936-37, and had been an Honorary Member since that date.

The Council has also to record with deep regret the deaths of the following members:—Mrs. Anderson, Mr. S. J. Beckett, Mrs. Henry Bury, Mrs. Cookes, Miss Firbank, [REDACTED], [REDACTED], Mr. Gandy, Mrs. F. Hunt, Mr. Kay, Dr. Male, Miss E. Owen, Dr. H. Owen, Mrs. R. Taylor, Rev. A. P. Woodhouse, and Miss E. Young.

There have been some changes among the Officers of the Society, occasioned by death and resignation. Mr. W. C. Simmons was elected Deputy Chairman of Council in March, in place of the late Rev. F. C. R. Jourdain; and Mr. S. C. S. Brown Chairman of the Zoological Section; owing to continued ill-health,

Dr. McDougall has been obliged to resign the Chairmanship of the Microscopical Section, which he has held since 1935, and his place has been taken by Mr. E. A. Robins; pressure of war work has prevented Mr. W. H. Marsh from continuing his Chairmanship of the Physical Section, and Miss M. Penrose has been appointed Chairman in his stead.

The activities of the Society have not been noticeably reduced by the war. There have been 14 general lectures and meetings during the year, as well as the Annual General Meeting and the Presidential Address. This last was given on Saturday, November 4th, when the President, Dr. W. G. Aitchison Robertson, spoke to a full meeting of members on "Some Suggestions as to the origin of Man." There were 60 sectional lectures and meetings. It is perhaps a reason for some self-congratulation to record that during the summer, at a time when the German authorities were boasting of the ruin which they had inflicted on the south coast of England, and the word "invasion" was on everyone's lips, the Society carried out 38 excursions to places in the country around Bournemouth. These excursions, of which 2 were general, and 36 sectional, were a little more restricted in scope than in normal years, but they were none the less enjoyed by those who took part in them.

The lecture hall and the small hall outside it have been in use as a Warden's Post by the A.R.P. throughout the year, and the Society has also given the use of the reference library and museum on certain days to working parties of the Central Hospital Supply Service. Various precautions have been taken in conjunction with these organisations to protect the Society's premises from fire and blast consequent on bombs. The time of lectures during the winter has been altered, as it was last winter, to allow members to return home before black-out time. After November 17th, all lectures and meetings will begin at 2.30 p.m.

The Council has received with regret the resignation of Miss M. Wetherell from the Chairmanship of the Tea Committee. The thanks of the Society are due to Miss Wetherell and the ladies of the committee for the successful manner in which they have continued their work under the trials of rationing.

In conclusion, the Council wishes to express its thanks to all the members of the Society for their continued support in the trying times through which we are all passing. In particular, it wishes to convey its gratitude to those who helped in the distribution of the Proceedings last December, to the lanternists, and to all who have presented gifts of any sort to the Society during the past year.



## GENERAL.

## Lectures and Meetings.

(\*Illustrated by Lantern Slides.)

1939.

- Oct. 28.—Annual Meeting.  
 Nov. 4.—Presidential Address.  
 Nov. 22.—Club Day.  
 Dec. 22.— „

1940.

- Jan. 8.—Club Day.  
 \*Jan. 20.—Instinct or Reason? The Honey Bee. W. G. A. Robertson.  
 Feb. 12.—Club Day.  
 Mar. 11.— „  
 \*Mar. 18.—Plant Life and Superstition. W. G. A. Robertson.  
 Apr. 22.—Club Day.  
 May 14.— „  
 June 8.— „  
 July 15.— „  
 Aug. 26.— „  
 Sept. 13.— „  
 Oct. 21.— „

## Excursions and their Leaders.

1940.

- May 15.—Burley and Beaulieu Abbey. S. Whitaker.  
 June 12.—Buckland Rings and Pylewell Park. S. Whitaker.

## SECTIONS.

## Archæological and Historical Section.

## Lectures and Meetings.

1939.

- Nov. 18.—The Ruins of Clarendon Palace. R. K. Cardew.  
 \*Dec. 30.—Roman Britain. Miss K. A. Hunkin.

1940.

- \*Feb. 7.—The Marches of Wales. F. L. Lowther.  
 Mar. 13.—The Holy Grail. Miss M. Penrose.  
 Mar. 23.—The Origin of Fire. F. L. Lowther.  
 Apr. 4.—Patination of Flints. N. L. Silvester.  
 Apr. 25.—The Bournemouth District. R. K. Cardew.  
 \*Oct. 19.—The Golden Bough. F. L. Lowther.

## Excursions and their Leaders.

1940.

- May 8.—Corfe Mullen. F. L. Lowther.  
 May 23.—Milford-on-Sea and Christchurch. Messrs. Cardew and Lowther.  
 June 27.—Sopley, Ellingham and Moyle's Court. F. L. Lowther.  
 July 25.—Poole. F. L. Lowther.  
 Aug. 20.—Bere Down and Winterbourne Kingston. F. L. Lowther.  
 Sept. 5.—The Tarrant Valley. F. L. Lowther.  
 Oct. 3.—Morden Park. F. L. Lowther.

## Astronomical Section.

## Lectures and Meetings.

1939.

- \*Nov. 8.—Astronomy, Old and New (Part 1). M. A. Ainslie.  
 \*Dec. 16.—The Sun's Family of Planets. J. T. Burge.

1940.

- \*Mar. 16.—Astronomy, Old and New (Part 2). M. A. Ainslie.  
 \*Apr. 20.—The Planet Mars. F. O'B. Ellison.

## Botanical Section.

## Lectures and Meetings.

1939.

- Nov. 2.—Village Life in Hampshire. J. Vorse.  
 Dec. 7.—Weeds. R. K. Cardew.

1940.

- \*Jan. 22.—The Evolution of Plants. M. C. Potter.  
 \*Feb. 19.—By Heath and Woodland. F. L. Lowther.

## Excursions and their Leaders.

1940.

- Apr. 18.—Cowgrove and Pamphill. R. K. Cardew.  
 Apr. 29.—Studland Heath. H. J. Wadlow.  
 May 10.—Whitemill Bridge. R. K. Cardew.  
 May 16.—Brockenhurst. J. Vorse.  
 May 20.—Wareham. H. J. Wadlow.  
 May 30.—Everton. M. C. Potter.  
 June 6.—Morden Park. F. L. Lowther.  
 June 10.—Burley. H. J. Wadlow.  
 June 17.—Holmsley. H. J. Wadlow.  
 June 24.—Wool. R. K. Cardew.  
 July 4.—Marlborough Deep. J. Vorse.  
 July 12.—Corfe. Mrs. James.  
 July 18.—West Morden. F. L. Lowther.  
 July 22.—Brockenhurst. M. C. Potter.  
 Aug. 1.—Dudsbury and Hampreston. R. K. Cardew.  
 Aug. 8.—Bloxworth. F. L. Lowther.  
 Aug. 15.—Hurn. Miss Fryer.  
 Aug. 22.—Wootton. M. C. Potter.  
 Aug. 29.—Hinton Admiral. J. Vorse.  
 Sept. 3.—Wareham. H. J. Wadlow.  
 Sept. 12.—Bere Regis. F. L. Lowther.  
 Sept. 18.—Beaulieu Road. H. J. Wadlow.  
 Sept. 26.—Staplehill, Uddens and West Moors. R. K. Cardew.  
 Oct. 1.—Canford Heath and Kingston. R. K. Cardew.  
 Oct. 10.—Brockenhurst (Fungus Foray). M. C. Potter and Miss Fryer.  
 Oct. 16.—Corfe. H. J. Wadlow.  
 Oct. 24.—Brockenhurst (Fungus Foray). Messrs. Potter and Vorse.

## Entomological Section.

## Lectures and Meetings.

1939.

- Nov. 14.—Objects of Interest. S. C. S. Brown.  
 Dec. 11.—The Pterophoridae. Messrs. Brown and Hall.

1940.  
 Jan. 6.—A Comparison between the Anatomy of Insects and Animals. B. Gorton.  
 Feb. 13.—Winter Fieldwork among the Lepidoptera. W. Fassnidge.  
 Mar. 9.—Physiological Circulation of Insects and Mammals. B. Gorton.  
 \*Apr. 6.—Spiders: their Ways and Habits. E. A. Robins.  
 May 28.—Items of Interest. S. C. S. Brown.  
 June 29.—Poison Sacs of Insects. B. D. W. Morley.  
 Sept. 24.—Notes for the Season. S. C. S. Brown.

## Geographical Section.

### Lectures and Meetings.

1940.  
 \*Jan. 24.—The Amazon. J. S. Masterman.  
 \*Feb. 10.—Vienna. J. Cameron.

### Excursion and Leader.

- June 19.—Poole Refuse Disposal Works. H. de Castro

## Geological Section.

### Lectures and Meetings.

1939.  
 \*Nov. 11.—The First Appearance of Man. H. Bury.  
 \*Dec. 13.—Mountain Building. C. E. Scudamore.

1940.

- Jan. 17.—The Geological Record; More About Wegener's Theory. H. Bury.  
 \*Mar. 2.—Durlston Bay. W. C. Simmons.

### Excursion and Leader.

1940.  
 Aug. 13.—Corfe. C. E. Scudamore.

## Microscopical Section.

### Lectures and Meetings.

1939.  
 Nov. 17.—Objects of Interest.  
 \*Dec. 15.—The Outlines of Photosynthesis. L. B. Hall.

1940.

- Jan. 19.—Objects of Interest.  
 Feb. 16.—     "     "  
 Mar. 15.—     "     "  
 Apr. 19.—     "     "  
 May 17.—     "     "  
 June 21.—     "     "  
 July 19.—     "     "  
 Aug. 16.—     "     "  
 Sept. 20.—    "     "  
 Oct. 18.—     "     "



## Photographic Section.

### Lectures and Meetings.

1939.

- \*Nov. 25.—West Cornwall and the Scillies. G. Bater.
- \*Dec. 9.—A Recent Visit to Italy. Mrs. Cameron.

1940.

- \*Jan. 27.—The Dutch East Indies. H. A. Abbott.
- \*Feb. 14.—Denmark and its Buildings. C. E. Muspratt.
- \*Mar. 30.—Members' Records of Excursions.
- \*Apr. 27.—Abbeys of the Scottish Border. S. Whitaker.
- \*Oct. 5.—Winchester and its Cathedral. S. Whitaker.
- \*Oct. 12.—Herculaneum and Pompeii. E. A. Robins.

## Zoological and Biological Section.

### Lectures and Meetings.

1939.

- Dec. 20.—What is Life? B. Gorton.

1940.

- \*Jan. 13.—Reminiscences of Finland. F. C. R. Jourdain.
- Jan. 29.—Instinct and Behaviour (I). L. B. Hall.
- \*Feb. 24.—Friends, Feathered and Otherwise. V. du B. Smythe.
- Feb. 27.—Problems of Animal Migration. H. Bury.
- \*Mar. 6.—The Bird Life of West Scotland. C. J. Pring.
- Mar. 28.—Instinct and Behaviour (II). L. B. Hall.
- Apr. 8.—The Wing of the Bee, Bat and Bird. B. Gorton.
- June 5.—Adaptive Resemblance in Mammals. B. Gorton.

## FORM OF LEGACY.

The following FORM OF BEQUEST is recommended for adoption by those who may be desirous of leaving by Will money for promoting the objects and work of the Society :—

*I give absolutely to the Treasurer for the time being of the Bournemouth Natural Science Society of No. 39 Christchurch Road, Bournemouth, for the general purposes of the Society the sum of £        s.        d. free of duty, and I declare that the receipt of the said Treasurer for the time being shall be sufficient discharge for the said legacy.*

# Summary of the Accounts for the Year ending 30th September, 1940.

## CURRENT ACCOUNT.

	£	s.	d.		£	s.	d.
<b>Receipts.</b>							
Members' Subscriptions ... ..			349	15	0		
Donations :—							
Special Donation for Payment of Secretary ... ..	35	0	0				
In Memoriam—Rev. F. C. R. Jourdain ... ..	6	7	0				
For Garden ... ..	5	0	0				
For National Trust ... ..	1	16	0				
Mrs. Cookes from Sale of Photographs ... ..	1	7	0				
For Archaeological Research Fund ... ..	1	0	0				
Bus Fares Recovered ... ..	0	13	9				
Sundry Members ... ..	0	10	0				
			51	13	9		
Rent from Tenants ... ..			135	0	0		
Compensation for A.R.P. Occupation ... ..			6	10	10		
Hire of Hall ... ..			1	0	0		
Surplus from Excursions ... ..			4	1	11		
Gas ... ..			11	6	6		
Electricity ... ..			0	10	0		
Pence for use of Telephone ... ..			1	17	11		
Hire of Slides ... ..			0	2	6		
Registration Fee ... ..			0	2	6		
			562	0	11		
<b>Payments.</b>							
Interest on Debentures ... ..			151	13	0		
Less Tax ... ..			64	9	4		
			87	3	8		
Income Tax under Schedule D ... ..			0	7	0		
Corporation Duty ... ..			3	7	3		
Maintenance of the Society's House :—							
Rates ... ..			80	14	5		
Property Tax ... ..			71	15	0		
Water ... ..			3	11	2		
Gas ... ..			24	18	1		
Electricity ... ..			7	7	9		
Coal and Coke ... ..			56	12	7		
Wages ... ..			76	5	10		
Insurances ... ..			20	0	3		
Telephone Charge ... ..			8	19	11		
Furnishing and Upkeep ... ..			7	4	5½		
			357	9	5½		
Maintenance of Garden :—							
Wages ... ..			20	18	8		
Other Expenses ... ..			4	19	6		
			25	18	2		
Secretarial Expenses :—							
Printing and Stationery ... ..			25	18	6		
Postage ... ..			13	7	7½		
Stamps ... ..			1	4	6		
Assistant Secretary ... ..			43	5	8		
			83	16	3½		
Cost of Volume XXXI. of the Proceedings of the Society ... ..			23	17	6		



Expenses of the Library	8	13	2
Subscriptions to other Societies	3	3	6
Cartage	0	5	0
Sundry	0	1	2
Transferred to Arch. Research Fund	1	0	0
Balance at Bank	595	2	2
	170	19	8
	£766	1	10

Balance from 1939	204	0	11
	£766	1	10

**DEPOSIT ACCOUNTS.**

<b>Debenture Fund.</b>	£	s.	d.
Balance brought forward	40	2	8
Interest to 31st December, 1939	0	11	11
	£40	14	7

<b>Building Fund.</b>	£	s.	d.
Balance brought forward	51	19	2
Interest to 31st December, 1939	0	15	3
	£52	14	5

<b>Archæological Research Fund.</b>	£	s.	d.
Balance brought forward	8	17	5
Interest to 31st December, 1939	0	2	4
Donation	1	0	0
	£9	19	9

**Redemption Fund.**

Balance brought forward ...  
Interest to 31st December, 1939 ...

£ s. d.  
29 16 6  
0 6 2  

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£30 2 8

Balance on Deposit ...

£ s. d.  
30 2 8  

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£30 2 8

**Note.**—The balance carried forward again includes a sum of £35 given by a generous friend towards the payment of an Assistant Secretary during the coming year.

A. J. PARSONS.

September 30, 1940.

We have examined the above accounts with the books of the Society and the vouchers for payments and certify the same to be correct.

Bournemouth, 11th October, 1940.

FREDERIC BROAD } Hon.  
JOHN C. WOODS } Auditors

## Library Report

The Hon. Librarian is pleased to report that members have made more use of the Library than in past years.

The thanks of the Society are due to donors of numerous serials and to various Colleges in America with whom we exchange publications.

Gifts of books have come from Miss Jourdain (Archæological Proceedings from the Library of her father), and from Miss Male (many works on Geology, in memory of her brother, the late Dr. Male); and from a fund provided by a large number of members we have purchased the "Handbook of British Birds" as a standing memorial to the late Rev. F. C. R. Jourdain, a principal contributor to the work.

## Report of the Zoological Section.

The lamented death of the Chairman has deprived us of the customary list of Observations of Birds for the season. With the active co-operation of bird-lovers, this publication may be resumed next year. All notes on this subject should be sent to Mr. F. L. Lowther.

## Report of the Entomological Section.

### Summary of Observations on Insects in the Bournemouth District for the Period October, 1939, to October, 1940.

1939.

#### Lepidoptera.

*Peronea cristana* Fabr. A few specimens of this extremely beautiful and remarkably variable Tortrix were beaten out of the dense blackthorn thickets which crown Badbury Rings.

*Peronea literana* Linn. A rare Tortrix outside the New Forest area. One beaten out of oak in Parley Wood.

*Cacoecia pronubana* Hubn. A fairly recent addition to the British list. Common in Bournemouth in the autumn; the larvæ feed on privet.

*Stenoptilia graphodactyla* Treits. Parley Heath is its main home in the British Isles. Still holds on in spite of heath fires. The larvæ feed on the flowers of *Gentiana pneumonanthe*.



**Hymenoptera.**

*Vespa crabro*, The Hornet. A nest was found in a hollow birch tree at Hurn. Unfortunately a gale wrecked the tree and nest before more detailed observations could be carried out.

1940.

**Lepidoptera.**

*Vanessa c-album* L. The Comma Butterfly. One hibernated at 39 Christchurch Road, but did not survive the winter.

*Vanessa cardui* L. The Painted Lady. Immigrants appeared unusually early. A small migration was observed coming in from the sea at Hengistbury Head in May. Wind due south.

*Limenitis sibilla* L. White Admiral. This beautiful butterfly is increasing its range. Several seen in an oak wood just outside the Borough boundary.

*Nemeobius lucina* L. The Duke of Burgandy Fritillary. Was very common in woods near Cranborne this year.

*Colias edusa* Fabr. The Clouded Yellow. A fairly large migration took place this year. Last seen in October.

*Leucophasia sinapis* L. Wood White. Has reappeared in the New Forest after being absent for sixty years.

*Pieris brassicae* L. The Large White. A remarkable immigration took place during the spring and early summer.

*Apatura Iris* L. The Purple Emperor. Has been very scarce in the New Forest for years. At one time fairly common. A professional collector used to take the larvæ by dozens, and paid the village boys to get them for him. Failing eyesight has prevented this gentleman from collecting. Iris is now said to be a little commoner of late. One believed to have been seen at Parley.

*Macroglossa stellatarum* L. The Humming Bird Hawk Moth. Only one seen this year in Bournemouth.

*Deilephila nerii* L. The Oleander Hawk Moth. One of the rarest of our moths. One found at rest on a wall at Southbourne. Another was taken at Fawley, Hants.

*Sphinx pinastri* L. The Pine Hawk. Common again this year.

*Sphinx convolvuli* L. The Convolvulus Hawk Moth. One said to have been taken in the town.

*Acherontia atropos* L. The Death's Head. One reported from Bournemouth.

- Deilephila livornica* Esp. The Striped Hawk Moth. Two reported. One at Southbourne, another at Hengistbury Head.
- Pachythelia villosella* Ochs. Only found in the heath area of Hants and Dorset. / Unusually common this year. The larva passes its time in a case; the female is wingless and never leaves the case.
- Lithocolletis geniculella* Rag. A few larvæ on sycamore in Meyrick Park. A new county record.
- Acrocercops omissella* St. Larvæ on *Artemisia vulgaris* in Bere Wood. New county record.
- Acrocercops imperialella* Mann. This extremely rare and little known moth has been lost sight of for many years. During the botanical ramble to Morden on July 18th a few larvæ were found mining the leaves of Lungwort. Two moths emerged later. This would show that the species is double-brooded. Previously it was considered to be single-brooded.
- Mnesipatris filicivora* Meyr. Discovered new to science in Co. Dublin, Ireland, in 1937. Not known elsewhere. Found in abundance in a garden in Bournemouth. The larvæ feed on the Male Fern, *Dryopteris filix-mas*.



## Presidential Address, 1940.

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### Plants as Food.

By REV. PROFESSOR M. C. POTTER, M.A., D.Sc.

In previous addresses treating of botanical subjects we have considered plants as architects, plants as civil engineers, plants as the source of material supplies both of food and economic resources and of the products of manufacture. We might also give rein to our thoughts upon plants as the founders of empires, for man (except perhaps the Esquimaux and the Samoyeds in North Siberia) can only live where plants are to be found. Also vegetable growth, as in Central America, can blot out the remains of ancient kingdoms and even, as Kipling tells us, can obliterate a village community in a very short space of time and rapidly change the face of civilization. Only when Man made permanent settlements, ceased to be a nomad, and began to cultivate plants did he make an advance in civilization.

One of the most remarkable of the plant's uses to humanity is its wonderful power of making available the energy necessary for life, and for building up the frame-work of the living organism. Let us therefore consider something of the sources and nature of plants as food.

We must not in this conception limit the value of the plant as ministering to our own food alone, in the usual narrow view of man, but discuss it very briefly as supplying the food—directly or indirectly—of all life, that is the life which is not able to provide its own sustenance from such raw materials as  $\text{CO}_2$  and  $\text{H}_2\text{O}$ , those organisms which make and save (i.e. green plants), and those which rob and spend (non-green plants and animals). We cannot too strongly emphasise our dependence upon the vegetable kingdom, for without the plant there could be no life as we know it. All life derives its very existence from the green plant, and not only mankind but hosts of animals and innumerable species of the lower forms of plant life are ever seeking to maintain their existence in this way. How could the slug and the caterpillar dispense with our succulent cabbages and the finest examples of our carefully tended garden produce? Many of the lower forms live one upon another, the large fungi functioning as food for larvæ, slugs and sometimes for human beings. The fungi and bacteria prey largely upon trees and other plants; but we must not forget that they have also their beneficent uses.

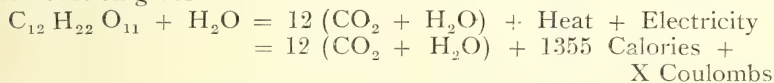
We consider our food mainly to consist of carbohydrates (starch and sugar), oils or fats, proteids or meat, and food accessories, all of which are derived from plants. Of these starch and sugar are of great importance, since by their means we derive the necessary energy which is so essential for life. They may be



regarded as carriers of solar energy, since only a very small portion of the carbon is utilised in building up the body, the greater portion being exhaled from the body in the form of  $\text{CO}_2$  during respiration.

A study of the biological processes by means of which plants are able to utilise energy derived from the sun, and thereby construct starch and sugar from the atmospheric  $\text{CO}_2$  and water has been intensely pursued for many years, yet it remains a baffling mystery. While this process has been the subject of countless investigations, the details of the various reactions are as yet unknown. Attempts to construct a carbohydrate by artificial means have not been crowned with success; although this process takes place under our very eyes, the secret has not as yet been wrung from Nature.

We know that sugar is constructed only by the chlorophyll of plants when exposed to light at a suitable temperature and with a due supply of  $\text{CO}_2$  and  $\text{H}_2\text{O}$ . Some light may be thrown upon the problem of photosynthesis from the reverse process of respiration. During respiration carbohydrates are broken down into their constituents  $\text{CO}_2$  and  $\text{H}_2\text{O}$ , with the liberation of heat and electricity. The formula for respiration taken from the heat of combustion gives



That is, a gram. mol. of sugar, about  $\frac{3}{4}$  lb. gives heat which would raise about 3 lb. (2.4 pints) of water  $1^\circ$  Cent. (*X a constant as yet undetermined.*)

During the reverse process, photosynthesis,  $\text{CO}_2 + \text{H}_2\text{O} + \text{Heat}$  (Calories) + Electricity (Coulombs) are made into sugar by green plants (i.e., those which possess chlorophyll) in the presence of light.

The necessary heat is supplied from the temperature of the environment, which is derived from the sun. Photosynthesis does not take place at low temperatures even in bright sunlight. For the sake of argument let it be supposed that heat has a material existence, a particle (calon) which bears the same relationship to heat that the electron bears to electricity. The electricity may be derived from two sources: (a) the atmospheric electricity derived in some measure from the negative expired breath and (b) the photo-electric effect of light upon water. Respiration being a process of oxidation, in the change from venous blood to arterial, electrons are discharged and expelled in the expired breath. It may be presumed that these electrons are attached to  $\text{CO}_2$  molecules rendering them electrically negative (activated) and are used in the construction of the sugar. The photo-electric effect of light upon water causes a potential difference between illuminated and less illuminated plant tissues. It may be thrown out as a suggestion that the former (a) are used as the materials for the

construction of the carbohydrate and the latter (*b*) as supplying the necessary energy to the chlorophyll corpuscle for the arrangement and placing of the electrons and calons in the correct configuration with the atoms of carbon, hydrogen and oxygen in the building up of the carbohydrate molecule.

Turning to our own sources of plants as food, and commencing with the Lower Forms, we find very little to be gained from the **Algæ**. The substance known as laval bread, obtained from a membranous, purple, sea-weed occurring along our western shores is exposed for sale as an agreeable food. We are told to "eat more sea-weed." *Wrack* (*Fucus* or *Laminaria*) is tough and without special flavour, but dried and ground to a powder would, if digested, provide good food including valuable traces of iodine.

From the **Mosses** we get nothing. Nothing seems to feed upon either Mosses or Liverworts.

The **Ferns** also provide little of value as a source of food. Ferns, like Mosses, seem to be left severely alone even by parasitic plants and animals, though it is said that a special fern in New Zealand can be eaten.

Coming to the next Higher Plants; from the **Cycads**, an ancient family once widely distributed and now reduced to nine genera, we get sago, a starchy food obtained from the pith.

From the **Monocotyledons** a quantity of food is obtained:—

The *Palms* supply sago from the pith; also palm oil and cocoa-nut oil, so largely used in the manufacture of margarine; sugar from the Date Palm.

The *Liliacæ* give the onion, with its sugar and other valuable qualities.

Among the *Musacæ* the most important for its food value and large sugar content is the Banana.

The *Bromeliacæ* include the Pine Apple.

The *Grasses* contribute starch, oil, mineral salts, and include the *Cereals*, wheat, oats, barley and rice, constituting much of our staple foods. The *sugar cane*, a very important part of the world's daily food, and forming a large and valuable import from tropical and sub-tropical countries, really of course serving as a source of solar energy for our needs.

From the **Dicotyledons**.

Starch is obtained from a variety of plants, and forms the chief reserve of the potato; tapioca and cassava both from a Euphorbiaceous shrub, *Manihot*.

Sugar from vegetables generally, especially cabbages, turnips, swedes, carrots, parsnips and beet.

Oil or fat from a variety of seeds, principally the olive, the castor oil plant, etc., etc.

Nearly all the plants enumerated above, both among the Monocotyledons and Dicotyledons, would come under the category of those which provide valuable constituents for the storage of reserve materials, which they have accumulated and built up for their own growth and development.

The **Fruits** obtained in such delightful variety from all parts of the globe can have only a very brief mention. They are of course of enormous value to health, and it should be known that in nutritive values—proteids, carbohydrates, etc.—fresh vegetables and fruits are approximately equal. In health-protective factors (vitamines, minerals, roughage) vegetables often exceed fruits in value. Vegetables are rich in vitamins A, B and C. Compared with oranges for instance, carrots contain ten times as much vitamin A, two and a half times as much vitamin B (the great nerve fortifier, and energy builder), and two-thirds as much vitamin C; and they cost less.

Sections of the potato, of certain roots, and of the wheat grain clearly illustrate the fact that it is the external tissues under the epidermis in which are found the proteids and other essential food-stuffs, and these should never be removed from articles of food, and thrown away. This is a point which requires to be pressed home, for undoubtedly one of the chief causes of malnutrition, and the consequent deterioration of health and liability to disease is due to the determined preference shown for white bread instead of whole-meal bread. The so-called "protective" foods, those which contain the essential constituents for health, are very largely represented in the class of vegetables and cereals, and these must be recognised as an important part of a suitable diet. The simple old-fashioned country diet left little to be desired, had not the popular taste of to-day for white bread and other refinements robbed it of vitally necessary elements.

In 1914 a disquieting number of recruits were classed as C 3, but in the present war the proportion was far less, indicating a great improvement, due to more rational ideas of food requirements. This is going to be impressed upon the nation more and more, as it becomes essential to secure the best food-values from available supplies.

In a short hour it is only possible to touch the fringe of a vast subject, but, so far as may be simply told, it will be agreed that the Plant may claim a very important role in the work of Nature, and that in very truth it forms the basic necessity of the whole fruitful globe.

The address was illustrated by lantern slides showing the plants mentioned and explaining the detailed structure of the wheat grain and the potato.

## Obituary Notice.

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### Rev. F. C. R. Jourdain, M.A., F.Z.S.

Mr. Jourdain came to the Society in 1927 with a world-wide reputation as an Ornithologist, the leading authority on the breeding biology of the birds of the Palæarctic region. His rigidly scientific field work, ranging from Iceland and Spitzbergen (where he led the Oxford Expedition in 1921) to Syria and Morocco, had its outcome in the formation of a great collection of the eggs of Palæarctic birds, the value of which for comparative purposes is unrivalled, and in a number of faunistic papers in the *Ibis* and elsewhere. He tabulated and classified with amazing industry the whole mass of data on the breeding of Palæarctic birds from the extensive literature, supplemented by his own experience and that of a wide circle of correspondents; and his Sections on breeding habits in the "*Handbook of British Birds*" are marvels of concise and exact information which could have been written by no other ornithologist.

The same untiring patience has enriched our *Proceedings* for the past 12 seasons with a record of local Observations of Birds and Arrivals of Migrants. The fruits of his work, at home and abroad, we had opportunities of enjoying in his frequent lectures, brimful of life and interest and humour, revealing in every point a complete mastery of his subject. His vivid personality galvanised the Zoological Section into new life; his Chairmanship of that Section since 1931, and his term as President 1933-1934 were conspicuous landmarks in the history of the Society.

It is good to know that, thanks to the liberality of some members, we now possess a copy of his most recent work, which is to be completed in five volumes, as a permanent evidence of his connection with the Society.

It was during his life of 11 years at Appleton that he, more than any man, sowed the seed in Oxford, from which was to spring the Ornithological Trust and the Edward Gray Institute, which now contains the records of the life-work of the three leading field ornithologists of the last generation—Selous, Coward and Jourdain.

His fellow-worker, B. W. Tucker, writes in *Nature* (June 8, 1940):—"Jourdain was an unsparing critic of inaccuracy in matters of fact or support of theories which he believed to be contrary to the evidence, and his frequently witty but withering style in controversy made him enemies in some quarters; but the reputation which it gained him gave to many a quite wrong impression of his real character. This was much more truly displayed in his unflinching willingness to assist and advise every serious student of birds who asked for his help, and above all in his constant and generous encouragement of the younger generation of ornithologists."





THE REV. F. C. R. JOURDAIN.



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