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PROCEEDINGS

OF THE

Bournemouth
Natural Science
Society.

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VOL. XI.
—

SESSION 1918-19.

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Bournemouth
Natural Science Society.

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SESSION 1918-19.

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CONTENTS.

	PAGES.
Introductory Note	5—6
Officers and Council for 1919-20	7
Report of Annual Meeting, 1919	8—10
Council's Report for 1919	11—16
Summary of Cash Account	17
Hon. Librarian's Report	18
Report of Delegate to Congress of South-Eastern Union ...	19—20
Obituary Notices	20
List of Members	21—33
Rules of the Society	34—37
Presidential Address	38—43
Report of General Summer Excursions	44—45
Notes on the Sections and their Work—	
Archæological and Historical	46
Botanical:	
Note on Field Work—The Chairman	47
Spartina Report—R. V. Sherring, F.L.S.	48
Entomological and Zoological	48—49
Selections from Lectures and Papers—	
Beetle Colouration—Joseph Neale, B.A.	50—51
Old Maps of Hampshire, Dorset and Wiltshire— Heywood Sumner, F.S.A.	52—55
Mosquitoes and Malaria in England— F. W. Edwards, B.A.	55—57
Surnames—The Rev. J. E. Kelsall, M.A.	57—59
Hampshire and Kent—R. Y. Banks	60—62
Old Wardour Castle—The Rev. H. Shaen Selly, M.A. ...	62—64
Trees on the Horsehoe, Bournemouth—	
H. Backhouse and the Rev. C. O. S. Hatton, B.A., F.L.S. ...	64—68
Index	69—70

ILLUSTRATIONS.



	<i>Facing page</i>
<i>The late George de Castro, M.R.C.S.</i>	20
<i>Head of a Pharoah</i>	38
<i>Spartina in Christchurch Harbour</i>	48
<i>Hampshire and Kent (Sketch Map)</i>	60
<i>Plan of Horseshoe</i>	68

Introductory Note.

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 of 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. It is hoped that the possession of this freehold house will enable the Society to offer its members many new advantages and to extend its activities in such directions as may seem advisable.

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."

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

It is hoped that the Geological Section, temporarily in abeyance, will soon be revived and the formation of an Astronomical Section is under consideration.

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

SECTIONAL MEETINGS.—Each Section usually holds a meeting once a month. At these meetings which, equally with the General Meetings, are open to all members of the Society, the papers read are more specialised and technical.

Throughout the SUMMER SESSION, 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 Vol. V. and Vol. X. by Sir Daniel Morris and Mr. W. G. Wallace respectively.

Members are elected by the Council and, in the case of those elected after February 7, 1920, pay an annual subscription of £1 for full membership (admitting to all meetings and excursions for the year).

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 FOR 1919-20.

President:

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S. McCALMONT HILL, D.C.L.

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U.S.A., M.J.S.

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M.B.O.U.

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R. V. SHERRING, F.L.S.

REV. HY. SHAEN SOLLY, M.A.

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Deputy-Chairman of Council:

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Council:

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J. H. RALPH SMYTHE, J.P.

F. B. TAYLOR, B.A.

W. J. WOODHOUSE, A.C.P.

Chairmen of Sections:

Archæological and Historical: REV. H. SHAEN SOLLY, M.A.

Botanical: REV. C. O. S. HATTON, B.A., F.L.S.

Entomological: JOSEPH NEALE, B.A.

Geographical: CLAUDE LYON.

Geological: W. MUNN RANKIN, M.Sc., B.Sc.

Photographical and Record: R. Y. BANKS.

Physical: HUBERT PAINTER, B.Sc., F.C.S.

Zoological and Microscopical: F. G. PENROSE, M.D., F.R.C.P., F.Z.S., M.B.O.U.

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Hon. Secretary: R. A. DE PAIVA, San Remo, 13, Carysfort Road,
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Hon. Assistant Secretary: W. G. BOUL, M.A., LL.D., D.C.L., 45, Lowther Road.

Assistant Secretary: J. F. SPENCER, Glenthorne, 73, Richmond Park Road.

Hon. Librarian:

HENRY J. ELLIS.

Hon. Curator:

W. G. WALLACE.

Hon. Editor:

HUBERT PAINTER, B.Sc., F.C.S.

Hon. Auditors:

E. BICKER. C. H. BLACKETT.

Bankers:

NATIONAL PROVINCIAL BANK OF ENGLAND, BOURNEMOUTH.

Past Presidents:

1903-4 ... J. E. BEALE (Mayor of Bournemouth).

1904-5—1905-6 . G. E. J. CRALLAN, M.A., M.B., M.R.C.S.

1906-7 ... H. J. WADDINGTON, F.L.S.

1907-8—1908-9 . DR. A. RANSOME, M.A., F.R.C.P., F.R.S.

1909-10 ... DR. A. SMITH WOODWARD, F.R.S., F.L.S., F.G.S.

1910-11 ... DR. DUKINFIELD H. SCOTT, M.A., F.R.S., F.L.S., F.G.S.

1911-12—1912-13 . SIR E. RAY LANKESTER, K.C.B., M.A., LL.D., F.R.S., F.L.S.

1913-14—1914-15 } SIR DANIEL MORRIS, K.C.M.G., J.P., M.A., D.Sc., D.C.L., F.L.S.

—1915-16 ... }

1916-17 ... THE RT. HON. THE EARL OF MALMESBURY, D.L., J.P.

1917-18 ... SIR JETHRO J. H. TEALL, M.A., D.Sc., LL.D., F.R.S.

1918-19 ... FIELD-MARSHAL LORD GRENFELL OF KILVEY, G.C.B., G.C.M.G.,
LL.D., F.S.A.

Annual Meeting, 1919.

THE Sixteenth Annual General Meeting was held in the Society's Room, Municipal College, on Saturday, October 25, at 3 p.m.

Sir Daniel Morris, K.C.M.G., etc., Chairman of the Council, presided. Seventy-two members were present.

The Minutes of the previous Annual Meeting were read by Dr. W. G. Boul, Hon. Assistant Secretary, in the absence of Mr. R. A. de Paiva through illness. The Council's Report for the past year was read by Dr. Boul, which showed that the Society had had a very active and prosperous year, both in the number of Excursions and Lectures given.

The Minutes and Report were adopted by the Meeting.

Mr. Brumell, the Hon. Treasurer, read his statement of accounts, showing receipts £325 17s. and payments £211 8s. 1d., leaving a balance of £114 8s. 11d. The amount received as special donations in connection with change of premises was £66 2s. 6d., and has been placed on deposit. The Society also holds £50 in 5% War Loan and 54 War Savings Certificates of £1 each. The Hon. Treasurer's statement was adopted, subject to the final audit of accounts by the Hon. Auditors, Messrs. Bicker and Blackett.

In connection with the British Association, the Chairman mentioned that the recent visit to Bournemouth had been the most successful of all Meetings. The Mayor and members of the Corporation Council connected with the British Association, and the Hon. Sir Chas. A. Parsons in their speeches thanked the Council and members of the Bournemouth Natural Science Society for their efforts in carrying out the work.

The Society specially thanked Mrs. Rothwell and Mr. H. E. Swain and others for the fine display of wild flowers held weekly in the vestibule of the Public Library, and regretted that through the absence of Mrs. Rothwell on War Work, the Exhibition was temporarily suspended, and asked for two or three lady members to come forward and carry on the work, and to communicate with Mr. Hatton and Mr. Backhouse. The Bournemouth Library Committee, through Mr. Riddle, were in full sympathy, and had supplied typed labels for the specimens.

The Chairmen of Sections gave their Reports. Mr. Lyon announced that if he was re-elected as Chairman of the Geographical Section, Mr. W. J. Woodhouse would act as his deputy.

The Report of the Library Committee was read by the Rev. C. O. S. Hatton, who stated that Mr. Painter had resigned the Chairmanship.

Sir Daniel Morris proposed a vote of thanks to the retiring President, Field Marshal Lord Grenfell, of Kilvey, which was seconded by Dr. Penrose, and carried unanimously.

He then proposed the re-election of Lord Grenfell as President for 1919-20. This was seconded by Mr. Claude Lyon, and carried with acclamation.

The Vice-Presidents were all re-elected, as also were the officers of the Society, with the exception of Mr. J. H. Ellis, Hon. Librarian, who had resigned, and Mr. J. Omer Cooper was elected as his successor.

Mrs. Rothwell and Mr. Jeffery having retired from the Council, a vote of thanks was accorded to them for their services, and in their places Mr. H. J. Ellis and Mr. A. Durancé George were elected. The rest of the Council were re-elected en bloc on the proposition of Rev. R. C. Lynch-Blosse, seconded by Mr. E. Compton Crump.

Mr. Ellis Chadwick proposed that a lady member should fill the one existing vacancy on the Council, and the Chairman promised that it should be considered by the Council.

Messrs. E. Bicker and C. H. Blackett were re-elected as Hon. Auditors, and a vote of thanks was accorded to them for their past services.

Other Business. The Chairman announced that a Special General Meeting would be held later, and called on the Rev. C. O. S. Hatton to explain how the Society stood as regards accommodation.

Mr. Hatton said that the Society's tenancy expired on September 29, 1919, but the Education Authorities allowed the use of the Room on a monthly tenancy until a suitable home could be found. He reported that after considerable search, "Bassendene," 39, Christchurch Road, within a few yards of Derby Road, had been inspected and reported on. It was on the main route of the trams, and close to a regular stopping place, and it fell in with three considerations necessary for the Society to bear in mind, viz., site of house, suitability for the Society's work, and price. Though perhaps not as central as one could wish, other central positions were quite out of the question as regards cost.

The house was pleasantly situated, and with slight alterations could be made quite suitable for the Society for their lectures, the dividing wall between the dining and drawing rooms being removed, would give them a hall 42ft. by 16ft., another room a Library, another a Museum, and there would be about 20 other rooms for other purposes, some of which could be let off.

The grounds were extensive, being 1 1-5 acres, and the price asked £3,000 for the Leasehold, but it had been obtained for £2,000, with an extra £800 for the Freehold, a very reasonable price, and especially so at present prices. It would be necessary

to add heating, lighting, and other alterations, the total cost being approximately £3,000.

It would perhaps be necessary to issue Debentures, but with such an excellent security, it was hoped members would do all they could to help by taking them up.

The Bournemouth Medical Society offered £65 per annum for a room and use of the Hall for Lectures; two other Societies were in negotiation. The rooms could not be used for business purposes, but only for meetings of various Societies. The Society was not yet in possession of the premises, but hoped to be able to move in by Christmas.

The Chairman characterised Mr. Hatton's clear statement as very satisfactory, and spoke of the Society's deep indebtedness to Mr. Hatton for his painstaking work.

Mr. E. Compson Crump advised the establishment of an Astronomical Section, with an Observatory when funds permitted.

The Arboricultural Society expressed its thanks through the Chairman for kindness shown to it during its Conference in Bournemouth, and for the use of the room for exhibits, especially for the collection of conifers arranged by Mr. Backhouse.

Mr. A. Gray was thanked for all the trouble he had taken in printing cards for the British Association and for all other cards he had done for the Society.

A vote of thanks to the Chairman closed the Meeting.

Council's Report for 1919.

IN presenting the Sixteenth Annual Report the Council has pleasure in recording another year of continued activity and usefulness.

The number of members on the 30th September, 1919, was 514 against 458 on the same date last year.

During the year General and other Meetings were held as follows:—

- Annual Meeting.
- Extraordinary General Meeting.
- Presidential Address.
- 9 General Lectures.
- 63 Sectional do. and other Meetings.
- 4 General Excursions.
- 13 Sectional Excursions.

making a total of 92 Meetings and Excursions.

One of the General Lectures was given by Mr. F. M. Edwards, B.A., assistant in the department of Entomology, Natural History Museum, on Mosquitoes and Malaria in England.

Four were given by Mr. R. Y. Banks on the subject of the War, being a further series in connection with the National War Savings Association.

Among the Sectional Lectures was a series of five given in the Botanical Section by the Rev. C. O. S. Hatton, B.A., F.L.S., on "Sagacity in Plants," also a series of eight Tutorial lectures on Physical Geography and Geology by Mr. W. Munn Rankin, M.Sc., B.Sc.

The General Lectures were as follows, viz. :—

- 1918.
- Nov. 2.—"The Island Homes, Manners and Customs of the Society Islanders of the South Pacific Ocean," by Mr. Jas. E. Liddiard, F.R.G.S.
 - Dec. 3.—"Women's Work in the War," by Mrs. Grace Curnock, read by Mr. R. Y. Banks.
 - Dec. 4.—"Mosquitoes and Malaria in England," by Mr. F. W. Edwards, B.A.
 - Dec. 13.—"The Island of Formosa," by Rev. W. Campbell, D.D., F.R.G.S.
 - Dec. 21.—Presidential Address by Field Marshal Lord Grenfell of Kilvey, G.C.B., G.C.M.G., LL.D., F.R.S. Subject: "The Art of Ancient Egypt."
- 1919.
- Jan. 8.—"America at War," by Mr. George Dilnot, read by Mr. R. Y. Banks.
 - Jan. 15.—"War in Italy," by Mr. Anthon Given, read by Mr. R. Y. Banks.

- Feb. 5.—“War in the Holy Land,” by Mr. Draycott M. Dell, read by Mr. R. Y. Banks.
 Feb. 19.—“Finland, Suomi, the Land of a thousand Lakes,” by Rev. W. H. Windle Cooper, M.A.
 Feb. 22.—“A Modern Pilgrimage to Canterbury,” by Mr. R. Y. Banks.

All were illustrated by Lantern Slides.

The Sectional Meetings and Lectures were:—

In the Archæological and Historical Sections.

1918.

- Oct. 19.—“Recent Archæological Additions to our Section,” by Rev. Hy. Shaen Solly, M.A.
 *Nov. 14.—“Old Maps of Hampshire, Dorset and Wiltshire,” by Mr. Heywood Sumner, F.S.A.
 *Dec. 5.—“The Ancient Cities of Mesopotamia,” by Rev. Hy. Shaen Solly, M.A.
 Dec. 12.—Conference of the Members of the Archæological and Record Sections to discuss plans for future work.

1919.

- Jan. 29.—“A General View of American Antiquities,” by Rev. F. A. Allen, M.A.
 *Feb. 18.—“The Internal Arrangements of a Medieval Monastery,” by Mr. H. F. Killick.
 Mar. 4.—“Erasmus,” by Mr. J. A. Fallows, M.A.
 *April 5.—“Ancient Babylonia and Assyria,” by Rev. Hy. Shaen Solly, M.A.

In the Botanical Section.

1918.

- Oct. 31.—“Sagacity in Plants,” by Rev. C. O. S. Hatton, B.A. F.L.S.
 *Nov. 28.—Second lecture do. (“The Struggle for Life”), by Rev. C. O. S. Hatton, B.A., F.L.S.

1919.

- *Jan. 2.—Third lecture on do. (“The Fertilisation of Flowers”), by Rev. C. O. S. Hatton, B.A., F.L.S.
 Jan. 23.—Meeting to see the valuable Herbarium, Photographs and Books, comprised in the bequests to the Society by the late Mr. C. B. Green.
 *Feb. 13.—Fourth lecture on “Sagacity in Plants” (insectivorous and parasitic plants), by Rev. C. O. S. Hatton, B.A., F.L.S.
 Mar. 13.—“A Botanical Humorist,” by Rev. J. E. Kelsall, M.A.
 *Mar. 27.—Fifth lecture on “Sagacity in Plants” (self protection), by Rev. C. O. S. Hatton, B.A., F.L.S.
 April 2.—“The Vegetation of Chalk,” by Mr. W. Munn Rankin, M.Sc. B.Sc.

In the Entomological Section.

1918.

- Oct. 10.—Discussion on Report for S.E.U.S.S. on the distribution of Anopheles in the Bournemouth district.
 Nov. 7.—Exhibition of Objects of interest.
 Dec. 5.—Exhibition of Objects of interest including a series of Melitœa Butterflies, by Mr. W. Parkinson Curtis, F.E.S.

1919.

- Jan. 9.—Exhibition of Objects of interest including a series of Melitœa Butterflies, by Mr. W. Parkinson Curtis, F.E.S.
 Feb. 6.—Exhibition of British and Continental Butterflies by Rev. A. R. Patterson.
 March 6.—Exhibition of Fritillaries of the genus “Brenthis.”
 April 3.—Exhibition of Objects of interest.
 May 8.—Exhibition of Objects of interest.

In the Geographical Section.

1918.
 *Oct. 12.—The Crimea as I saw it," by Mr. Claude Lyon.
 *Nov. 9.—"The Thames and the Chiltern Hills," by Rev. A. C. Almack, M.A.
 *Nov. 30.—"Provinces of England," by Mr. C. B. Fawcett, B.Lit., M.Sc., F.R.G.S.
 Dec. 6.—"Surnames," by Rev. J. E. Kelsall, M.A.
1919.
 *Jan. 4.—"Highways and Byeways in the Yorkshire Dales," by Mr. W. Munn Rankin, M.Sc., B.Sc.
 *Feb. 1.—"Practical Geography in Winter," by Mr. W. J. Woodhouse, A.C.P.
 *Feb. 26.—"The Great Canyons of the Colorado, the most stupendous Gorges in the World and Scenes Beyond," by Mr. Claude Lyon.
 Mar. 12.—"The Migrations of the Jews," by Mr. T. J. P. Jeffery.
 Mar. 26.—"The Parish, the County and the Town in England's History," by Rev. A. C. Almack, M.A.
 *April 30.—"Beautiful California," by Mr. Claude Lyon.

In the Geological Section."

1918.
 *Dec. 11.—"The Structure and Mineral Resources of Alsace and Lorraine," by Mr. W. Munn Rankin, M.Sc., B.Sc.
1919.
 *Jan. 18.—Second lecture on do. (Mineral Resources"), do.
 Jan. 16.—Physical Geography and Geology do.
 Jan. 30.— do. do.
 Feb. 13.— do. ("Mountains") do.
 Feb. 27.— do. ("Rivers and Valleys") do.
 Mar. 13.—"Physical Geography of the Sea Coast," do.
 Mar. 27.—"Glaciers and Glaciation, ancient and modern," do.
 April 10.—"The Building of the British Isles." do.
 April 24.—"The Building of Purbeck and the Hampshire Basin," do.

In the Photographic and Record Section.

1918.
 *Nov. 20.—"Leaves from a Photographer's Note Book," by Mr. R. Y. Banks.
 *Dec. 7.—Exhibition of 100 slides lent by the "Nature Photographic Society," by Mr. R. Y. Banks.
1919.
 *Jan. 22.—Discussion on matters Photographic.
 *Mar. 19.—Display of work done by Members during the year.
 *Mar. 29.—"The Wonder and Beauty of Light and Colour," by Mr. Claude Lyon.
 *April 12.—"A Modern Pilgrimage to Canterbury," Part II., by Mr. R. Y. Banks.
 *April 26.—"Great Durnford Church, Bishopstone Church and Salisbury Cathedral," by Mr. E. Dodshon, LL.B.
 *May 17.—Exhibition of "Amateur Photographer" Prize Slides.

In the Physical Section.

1918.
 Nov. 16.—"Dyes—Natural and Artificial," by Mr. Hubert Painter, B.Sc., F.C.S.
1919.
 Jan. 11.—"Standards and Units," followed by a discussion on the Metric System, by Mr. Hubert Painter, B.Sc., F.C.S.
 *Jan. 25.—"Weather Maps and their significance," by Mr. F. I. Cooke, read for him by Dr. W. G. Boul, M.A.

- Feb. 8.—Advantages and Disadvantages of the Metric and other Decimal Systems (discussion continued).
 Feb. 15.—“Fundamental Concepts of Chemistry,” by Mr. Hubert Painter, B.Sc., F.C.S.
 Mar. 22.—“Chaucer’s Account of Alchemy,” do.
 In the Zoological and Microscopical Sections.
 1918.
 *Oct. 17.—“The Falcons, Hawks, etc., on the British List,” by Dr. F. G. Penrose, F.R.C.P., F.Z.S., M.B.O.U. (Zoological.)
 Nov. 6.—Contributions to a Theory of Beetle Colouration, by Hr. Jos. Neale, B.A. (Zoological.)
 Mar. 20.—Exhibition of Slides. (Microscopical.)
 May 8.—Meeting for practical Microscopical Work. (Microscopical.)
 June 12.—Microscopical examination of Living Material from Ponds in the neighbourhood. (Microscopical and Zoological.)
 Those marked * were illustrated by Lantern Slides.

The General Excursions and their Conductors were:—

1919.
 May 24.—Romsey Abbey Church, Rev. Hy. Shaen Solly, M.A. and Mr. R. A. de Paiva.
 June 25.—Milton Abbas, Rev. Walter Greswell (vicar in charge).
 July 19.—Salisbury Cathedral and Museum, Mr. Geo. de Castro, M.R.C.S.
 Aug. 16.—Old Wardour Castle and Shaftesbury, Rev. Hy. Shaen Solly, M.A. and Dr. W. G. Boul, M.A.

The Excursions in the various sections and their Conductors were :

1919.
 May 15.—Sandbanks, Dr. F. G. Penrose, F.R.C.P., F.Z.S., M.B.O.U. and Rev. C. O. S. Hatton, B.A., F.L.S. (Zoological and Botanical.)
 May 29.—Corfe Castle, Dr. F. G. Penrose, F.R.C.P., F.Z.S., M.B.O.U. (Entomological.)
 May 31.—Moyles Court and Somerley, Mr. Claude Lyon. (Geographical.)
 June 5.—Christchurch Meadows, by Mrs. Rothwell and Rev. C. O. S. Hatton, B.A., F.L.S. (Botanical.)
 June 14.—Marlboro Deep in the New Forest, Rev. C. O. S. Hatton, B.A., F.L.S. (Botanical.)
 June 26.—Wareham, Mrs. Rothwell. (Botanical.)
 June 28.—Hengistbury Head, Mr. W. G. Wallace. (Entomological.)
 July 5.—Rhinefield and Mark Ash, Rev. C. O. S. Hatton, B.A., F.L.S. (Botanical.)
 July 12.—Boldre Church, Buckland Rings and Ampress Port, Lyminster, Rev. Hy. Shaen Solly, M.A., and Mr. Geo. Brownen, F.C.S. (Archæological and Historical.)
 July 17.—Hengistbury Head and Christchurch Harbour, Rev. C. O. S. Hatton, B.A., F.L.S. (Botanical.)
 July 24.—Shell Bay and Studland Heath, Mr. W. Munn Rankin, M.Sc., B.Sc. (Botanical.)
 Aug. 9.—Highcliffe Cliffs and Mudeford, Rev. C. O. S. Hatton, B.A., F.L.S. (Botanical.)
 Aug. 28.—Corfe Castle, Rev. C. O. S. Hatton, B.A., F.L.S. (Botanical.)

At the last Annual Meeting held in the Society’s Room on October 26, 1918, Field Marshal Lord Grenfell of Kilvey, G.C.B., G.C.M.G., LL.D., F.S.A., was unanimously elected President for 1918-19, and he gave his Presidential Address on December 21 on

“The Art of Ancient Egypt.” Owing to the requirements of the Education Authorities, the Society received notice to give up the room in the Municipal College which they have occupied since April, 1913, on September 29, 1919.

An Extraordinary General Meeting was held on March 15. That Meeting authorised the Council to take such steps as they may consider necessary to safeguard the interests of the Society. A committee formed for that purpose investigated several houses and sites, but negotiations with regard to them fell through. A house has now been found which is considered favourable for the Headquarters of the Society. At the time this report was drawn up negotiations were still in progress.

The Natural Science Society War Savings Association has been closed, a total of £5,456 has been contributed by members.

The display of Wild Flowers in the Public Library has been continued during the year, and has been a source of instruction and interest to a large number of people.

The British Association for the Advancement of Science, to which this Society is affiliated, held its Meeting in Bournemouth from the 9th to the 13th September. It was pronounced on all hands to be a great success. The Society may justly pride itself on the part taken by so many of its officers and other members in securing this result. Among the Vice-Presidents of the Association for the Bournemouth Meeting were Field Marshal Lord Grenfell, the present President of the Society, and four of our past Presidents, Dr. A. Ransome, Sir E. Ray Lankester, Sir Daniel Morris and the Earl of Malmesbury. Sir Daniel Morris was also President of Section K (Botany).

The Local Executive Committee included Sir Daniel Morris, Dr. Penrose and Mr. Munn Rankin, all of whom bear office in our Society, and Mr. F. W. Ibbett, a member of long standing, was one of the local Secretaries. The Society also provided local Secretaries for seven of the twelve Sections, Mr. H. Painter, Sec. B, Dr. Ord, Sec. C, Dr. Penrose, Sec. D, Mr. Scattergood, Sec. E, Mr. Bulfin, Sec. G, Mr. Claude Lyon, Sec. H, and Mr. Munn Rankin, Sec. K. One of our Vice-Presidents, Mr. Liddiard, represented the Society at the Conference of Affiliated Societies.

Numerous and successful excursions were organised by the Local Sectional Secretaries to places of interest, such as the Royal Naval Cordite Factory; the Tramway Generating Station, the works of the Bournemouth Gas and Water Company, and the Winton Aerodrome, also to Swanage, Barton and Hordle Cliffs, Lulworth Cove, the New Forest, Poole Harbour, Heron Court, and other localities. In connection with Section K arrangements were made by Mr. Backhouse for exhibiting a very complete collection of Conifers, and there was a show of flowers from Abbotsbury and elsewhere arranged by Mrs. Rothwell and Miss Ida Roper.

Dr. Ord and Mr. Wallace provided an Exhibition of local fossils and other geological specimens in one of the rooms allotted to Section C. This included a selection of the Dent Collection of Barton Fossils, fossil leaves from the Bournemouth beds, a series of pebbles from the gravels and beaches of the neighbourhood, and a fine set of local paleolithic and neolithic stone implements. A set of 22 hand-painted lantern slides was prepared by Mr. R. Y. Banks to illustrate Col. Godfery's lecture on "The Orchids of Hants and Dorset and their Hybrids." It may also be mentioned that hospitality was extended by several members of the Society to distinguished men of science attending the Meeting.

The "Natural History of Bournemouth" was on sale in the Reception Room, and more than eighty copies of it were sold.

The Council has the pleasure to record that the Fellowship of the Linnean Society has been conferred on the Rev. C. O. S. Hatton, Chairman of the Botanical Section.

The Society has suffered the loss by death of several of its members since the last Annual Meeting, October 26, 1918, viz., Sir Wm. Gibbon, Mr. Chas. Sidgwick, Dr. Earle, Mr. Mark Jameson Letcher, Lieut. Percival M. Chadwick (killed in action), Mr. John Scott, and Mr. Alex. Allan. Obituary notices of some of them are to be found in Volume X of the Proceedings.

Among the gifts presented to the Society during the year were:—A number of books mentioned in the Librarian's Report, a case of Egyptian Antiquities acquired by the late Mr. G. R. MacDougall, to be henceforth known as "The MacDougall Collection"—presented by Miss A. J. Henderson.

Twelve boxes and parcels of fossils from various formations and localities, presented by Dr. Ord, F.G.S.

A number of lantern slides of Alpine and Italian scenery, presented by Mr. R. V. Sherring, F.L.S., and Mr. Robt. S. Walker.

A stuffed Bird of Paradise presented by Mr. Jas. E. Liddiard, F.R.G.S.

A fossil *Ichthyosaurus*, presented by Mr. E. Dodshon, Ll.B.

In conclusion, the Council wishes to thank all those who have given lectures and conducted excursions, all those who have in any way helped to promote the interests of the Society, and especially those who have given permission to visit places of interest.

Summary of Cash Account for the Year ending 30th September, 1919.

RECEIPTS.

	Amounts for previous year.		
	£	s. d.	£ s. d.
Members' Subscriptions	201	8 6	201 7 6
Subscriptions in Advance for 1919-20	11	2 0	6 12 6
Sales of Volumes of Proceedings Sales of "Natural History of Bournemouth"	0	7 0	0 6 6
Surplus from Excursions	12	3 8	4 1 6
Proceeds from Lectures	8	18 11	0 2 0
Interest on £50 War Loan, less Tax	1	15 0	3 3 0
Donation to Library	1	10 0	1 16 3
Donation from Royal Colonial Institute	4	4 0	
Sale of Books (Library surplus)	1	1 0	
	242	10 1	
Balance at Bank, 1st Oct., 1918	83	6 11	
	<u>£325</u>	<u>17 0</u>	

PAYMENTS.

	Amounts for previous year.		
	£	s. d.	£ s. d.
Rent of Room, Municipal College Hire of Lecture Hall	35	0 0	35 0 0
Salary of Assistant Secretary	2	6 8	4 18 4
Printing and Stationery	10	0 0	10 0 0
Volume X of Proceedings	35	0 5	26 16 7
Furniture and Upkeep of Room	44	5 0	36 7 3
Expenses of Lectures	15	4 0	10 17 1
Postage	24	13 6	14 18 6
Subscriptions to other Societies	6	7 6	4 5 6
Insurance	5	2 4	1 14 3
Purchase and Preparation of Natural History specimens and Photographic Records	2	19 11	2 16 9
Books	28	2 4	16 11 5
Expenses of Wild Flowers Exhi- bition	2	6 5	5 0 0
Sundries	2	6 5	2 5 1
	211	8 1	
Balance at Bank	114	8 11	
	<u>£325</u>	<u>17 0</u>	

The amount received as special donations in connection with change of premises is £66 2s. 6d., and has been placed on deposit. The Society also holds £50 of 5 per cent. War Loan and 54 War Savings Certificates of £1 each.

We have examined the foregoing Account, with the Books of the Society and the Vouchers for payments, and certify the same to be correct.

30th October, 1919.

EDWARD BICKER, Auditor.
C. H. BLACKETT,
Hon. Auditor.

Hon. Librarian's Report

The exchanges of our yearly volume of proceedings have been kept up with a number of Corresponding Societies and the Hull Scientific and Field Naturalists Club has been added to the number.

Principal Purchases, October 1918, to September 1919 :—

- The Victorian County History for Hants, vols. 3, 4 and 5.
 "Dictionary of Birds," by Professor Newton.
 "Encyclopædia of Photography," by B. E. Jones, 1911.
 "The Book of Photography," by P. N. Hasluck.
 "British Dragon Flies," by W. J. Lucas, 1900.
 "Gothic Architecture in England," by F. Bond, 1912.
 "British Sessile-Eyed Crustacea," by Bate and Westwood, 1863, 1868.
 "Grasses of Great Britain," by Sowerby and Johnson, 1st edition.
 "British Serpents," by G. R. Leighton.
 "British Lizards," by G. R. Leighton.
 "The Entomologist's Log Book," by A. G. Scorer, 1913.

and a few other works.

Donors of Books and Pamphlets October 1918, to September 1919 :—

	Vols.	Subject.
Mr. E. R. Gill	(2)	History of Poole.
Mr. H. F. D. Bartlett	(1)	Zoology.
Captain Platnauer	(11)	Museums Journal.
Mrs. Robertson	(6)	Astronomy and Botany.
Mr. L. Tatchell	(1)	Entomology.
Dr. A. Ransome	(2)	Geography.
Rev. H. S. Solly	(2)	Archæology.
Dr. Penrose	(4)	Microscopy.
Sir Daniel Morris	(8)	Botany.
Mr. C. Eiloart	(1)	Topography.
Mr. H. Backhouse	(3)	Travels.
Mr. Heywood Sumner	(1)	Archæology.
Mr. J. A. Pearson	(?)	Topography.

Our member, Mr. C. B. Green (died 6th October, 1918) bequeathed, in addition to his valuable Herbarium, a number of Books and Pamphlets (45) chiefly Botanical, including Masee's "Fungus Flora," 4 vols.; Floras of the Undercliff, I. of W.—of Bristol,—of Middlesex, etc.

In the Autumn of 1919 the Rev. Professor George Henslow presented a large number (168) of works on Scientific Subjects, chiefly Botany, Zoology, Evolution, the uses of Plants, etc., Works of Darwin, Lubbock, Bentham and Hooker, being included. Also 49 volumes and pamphlets by the Professor himself.

Report of James E. Hiddiard, F.R.C.S.,

the Delegate of the Natural Science Society at the Annual Conference of Delegates of Corresponding Societies at the Meeting of the British Association, held at Bournemouth from September 9th to 13th, 1919.

The President of the Conference was the Right Hon. Lord Montagu of Beaulieu, C.C., J.P., the Vice-President Mr. H. Dale, F.S.A., and the Secretary Mr. Mark Webb, F.L.S.

The Conference met in the Municipal College on Thursday, September 11, and Friday, September 12. The subject of the presidential address was "Roads, Ancient and Modern," in which Lord Montagu dealt with the importance of road and the history of locomotion. He said that roads were now, as ever, a good general test of the civilisation to which a nation had attained, and at present, in the United Kingdom, compared with railways, they were of equal, if not of greater, importance to the country.

In concluding his most able and interesting address, he referred to the romantic, poetical, and artistic aspects of the road. In the Old Testament, he said, the road is always the symbol of something beautiful and useful. Throughout the Old and New Testaments the most famous and moving incidents have all taken place in or near the road—roads which we picture to ourselves from youth up. It is along the road that we go to be christened, married, and buried. Roads winding over hills and through dales are not only means of travelling, but emblems of one of the conquests of man over natural forces, and roads over the face of the world show forth all the extraordinary intelligence and industry of the human race. It was, he continued, Ruskin who held that the making of a road was the finest work and monument which a man could leave behind him. If we may parallel the well-known saying "that the man is worthy of his country who makes two blades of grass grow where one grew before," one might say to-day that he who makes roads twice as good as they have been, who makes them fit for the transport of his country, is as great a benefactor as he who produces more out of the soil. There is something wonderful but undefinable in the charm of a great road, which can never be understood by those who have not felt it. It suggests adventure; it stimulates imagination; it brings at eventide the idea of home-coming, of repose after work. Co-eval with the earliest civilisation and co-eternal with mankind, roads in the future will be valued more and more by the community. Roads will, in the future, as in the past, form a just criterion of the intelligence and civilisation of every country.

Following this, there was a discussion on "Atmospheric Pollution of Towns," by Dr. J. S. Owens, M.D. On the Friday there was a discussion on "The Measurement of Rain," introduced by Mr. de Carle Salter, who suggested a method of obtaining a correct measurement of rainfall by the adoption of a standard hour for the observation, and said that the position of the rain gauge was also important, say, one foot above level and not on sloping ground.

The closing discussion, introduced by Mr. T. W. F. Parkinson, M.Sc., was on "The Importance of including Geography in the Curriculum of Higher Education." The discussion was well sustained, and in response to the call of the Chairman your Delegate took part in this.

Obituary Notices.

FREDERICK ISAAC COOKE.

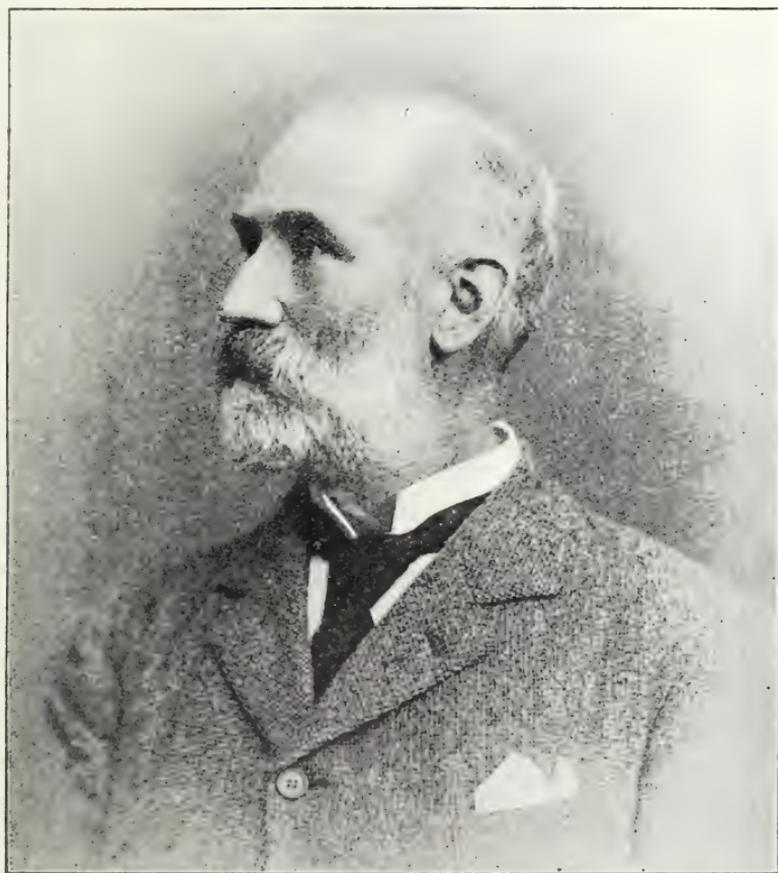
Died—February 20, 1920.

Mr. Cooke was for many years one of the leading agriculturists of Norfolk. He was an original Alderman of the Norfolk County Council, and took a prominent part in initiating and directing the experimental work of the Norfolk Chamber of Agriculture. For several years he wrote the annual report on this work, the results of which were of great interest and importance. Later he settled in Bournemouth and joined the Society in 1908. He was appointed Hon. Librarian in 1910 in succession to the late Mr. Alexander Scott, and held office till 1912. He exhibited experiments on plant culture at the Conference of the South-Eastern Union of Scientific Societies in June, 1914, and contributed three papers to the Physical Section, namely: "Weather Forecasts," February 4, 1911; "Dust," February 23, 1918; "Weather Maps," January 25, 1919.

GEORGE DE CASTRO, M.R.C.S., Eng.

Died—April 14, 1920.

Dr. de Castro was educated at Uppingham under the celebrated Dr. Thring, and afterwards studied in France. He travelled for several years in all parts of the world, visiting China, Japan, India, North and South America, Australia, Tasmania and New Zealand. He began his medical career at St. George's Hospital, spent some strenuous years in the practice of his profession, travelled again for a while, and in 1907, came to live in Bournemouth. He became a member of the Society in 1910, and was appointed Chairman of the Geographical Section in January, 1911. He retired from this office in 1915, but continued to take a keen interest in the affairs of the Society. In April, 1912, he gave a General Lecture on "The Dominion of New Zealand," and on various dates from 1911 onwards, he contributed papers to the Geographical Section, including:—"A Glance at our Chineses," "The Bournemouth District," "Extra-European Possessions of the German Empire," and "The Work of the Section." He was admirable as an organiser and conductor of excursions and gave valuable assistance at the Conference of the S.E. Union of Scientific Societies and again at the Bournemouth meeting of the British Association. Any officer of the Society who wanted help knew that it would be willingly given by Dr. de Castro. He will be much missed by the large circle of those who knew and loved him.



The late GEORGE de CASTRO, M.R.C.S.

BRITISH
MUSEUM
25 FEB 30
NATURAL
HISTORY.

List of Members.

Revised to 1st March, 1920.

* HONORARY MEMBERS. † PAST PRESIDENTS. O ORIGINAL MEMBERS.
A ASSOCIATE MEMBERS.

Members elected since August 1st in Italics.

Members resigned since September 30th in brackets [.....].

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

A

- | | |
|---|---|
| 1912 Alabaster, Lady | Dil Aram, 36, Sea Road, Boscombe |
| 1905 Alder, Mrs. | East Grove, Lymington |
| 1908 [Alder, Miss] | " " |
| 1920 <i>Alexander, J. A.</i> | Waverley, Rossmore Avenue, Parkstone |
| 1913 Alexander, Saml. J. | Abbotslea, 5, Surrey Road |
| 1911 [Allan, Alexr.] deceased | Bylands, Boscombe Cliff Road |
| 1911 Allen, Rev. F. A., M.A. | Staffa, Wellington Road, Parkstone |
| 1918 Alleyne, Miss | Beechwood House, Wilfred Road, Boscombe |
| 1906 Allis-Smith, Miss E. | Martello Towers, Branksome Park |
| 1919 [Anderson, Col. R. F.] | Glenalmond, 5, Madeira Road |
| 1914 Andrews, W. | Connaught Grange, 81, Alumhurst Road |
| 1905 Archer, J. W. | Windlesham, 5, Braidley Road |
| 1905 Archer, Mrs. | " " |
| 1919 <i>Archer, Miss C.</i> | " " |
| 1913 Armstrong, Mrs. | 27, Cecil Road, Boscombe |
| 1915 [Arundel, John T.] F.R.G.S.,
deceased | Savoy Hotel, Bournemouth |
| 1911 Atkins, W. | The Hermitage, 40, Wimborne Road |
| 1911 Atkins, Mrs. | " " |

B

- | | |
|--|---|
| 1906 Backhouse, Hy., F.R.H.S. | Yelland, 23, McKinley Road |
| 1910 Bain, Mrs. | 14, Oxford Avenue, West Southbourne |
| 1918 [Balding, Bernard T.] | 15, Ravenscroft Park, High Barnet, Herts |
| 1920 <i>Ball, Arthur E.</i> | 104, Christchurch Road, Boscombe |
| 1911 [Banfield, Col. R. J. F.] C.B. | Park View, 42, Poole Road |
| 1905 Banks, R. Y. | 12, Portchester Road |
| 1905 Barlow, E. W., B.Sc., F.R.A.S. | 112, Cromwell Road, S.W. 7. |
| 1912 <i>Barraclough, Aug., M.A.</i>
(Cantab.), F.R.G.S. | 173, Richmond Park Road |
| 1909 Barratt, J. Hayes | Brundon, 2, Surrey Road |
| 1914 [Barrington, W. J.] deceased | Heather Dene, Penn Hill Avenue, Parkstone |
| 1918 [Bartle, H.] deceased | 74, Lowther Road |
| 1918 [Bartle, Miss M.] | Braemar, Longfleet Road, Poole |
| 1905 Bartlett, H. F. D., F.E.S. | 1. Myrtle Road, Richmond Park |
| 1914 Bartlett, T. O. | Wilts and Dorset Bank, Westbourne |
| 1918 <i>Beaumont, Miss E. J.</i> | 60, Fitzharris Avenue |
| 1919 <i>Begg, Miss</i> | Udale House, 56, Christchurch Road |
| 1909 Benison, F. | Aldborough House, 14, Rosemount Road |
| 1909 Benison, Mrs. | " " |
| 1917 Bennett, Douglas, M.A. | Woodlands, Ashley Road, Parkstone |
| 1920 <i>Bennett, Risdon, M.A.</i> | " " |
| 1905 Bennett, Miss E. C. | 85, Talbot Road, Winton |
| 1904 Bennett, H. Morden | Manor Lodge, 20, Manor Road |

1920	<i>Bennetts, J. V.</i>	c/o Mrs. James, Trevenen, Howard Road
1920	<i>Berg, Count</i>	18, Florence Road, Boscombe
1920	<i>Berg, Countess</i>	" "
1919	<i>Best, W. H., L.R.C.P.</i>	Trevorian, Stourwood Road, W. South- bourne
1913	Bilton, Miss C. E.	Dilkhush, 25, Parkwood Road, Boscombe
1912	Blackall, Miss E. E.	10, Harcourt Road, Boscombe Park
1908	Blackett, C. H.	Rosapenna, 16, McKinley Road
1908	Blackett, W. Eggleston	Blanchland, 21, McKinley Road
1918	Blackford, J. R.	Athelney, The Beach, Shoreham
1918	Blair, Mrs. Chas.	Ranawella, 39, Wimborne Road
1915	Blondel, Mrs.	Redroofs, Ipswich Road
1916	Bloomfield, Rev. H., M.A.	Moordown Vicarage
1917	Blundell, Miss M. J.	Chesterton, Kingsbridge Road, Parkstone
1910	*Bond, F. Bligh, F.R.I.B.A.	454, Gloucester Road, Bristol
1919	Bonnard, Mrs. C. E.	Brierley, Roslin Road
1916	[Booth, Miss]	Boscombe Grange, Percy Road
1918	[Boubnoff, N. A.]	East Anglia, 6, Poole Road
1918	Boul, Wm. G., M.A., LL.D., D.C.L.	45, Lowther Road
1918	Boul, Mrs.	" "
1920	^A Bourne, Miss C.	Moray House, 6, Percy Road, Boscombe
1914	Bradbury, Miss	La Bocca, 2, Portarlington Road
1914	Bradbury, Miss A.	" "
1914	Bradbury, Miss E.	" "
1908	Brazier, J. J.	Fairlawn, 48, Lowther Road
1917	^A Brett, Lloyd]	10, Warwick Road, Boscombe
1914	[Bright, Percy] F.E.S.	Colebrook Grange, Christchurch Road
1917	Brown, Edward	Wood End, Chessel Avenue
1917	Brown, Mrs.	" "
1917	Brownen, Geo., F.C.S.	"Galnas, "Grove" Road, "Christchurch
1905	Brumell, Geo., A.R.I.B.A.	Maori, Richmond Park Avenue
1907	Bulfin, Ignatius, B.A.	The Den, 26, Knole Road
1908	Bulfin, Mrs.	" "
1919	<i>Burstal, Edwd., M.D., OXON.</i>	Coombe Lea, 30, "Christchurch Road
1915	Burton, Jas.	163, Richmond Park Road

C

1910	Cameron, Miss	Little Forest House, 19, Bath Road
1919	<i>Cardew, Reginald Kirby</i>	Stafford Lodge, 26, Dean Park Road
1920	<i>Cardew, Mrs.</i>	" "
1918	[Carter, Rear-Admiral A. W.]	Dol Peris, 27, Surrey " Road
1918	[Carter, Mrs.]	" "
1918	Carter, Wm.	The Oaks, Parkstone "
1918	Carter, Mrs.	" "
1912	Carus-Wilson, C., F.R.S., Edin., F.G.S.	Altmore, "Waldegrave" Park, Strawberry Hill, Middlesex and Royal Societies' Club, S.W.
1920	<i>Cassel, Mrs.</i>	Branksome Dene, Alumhurst Road
1918	Chadwick, Ellis, M.A.	St. Moritz, Penn Hill Avenue, Parkstone
1918	Chadwick, Mrs.	" " "
1918	Chadwick, Norman Ellis	" " "
1909	Chandler, S. Whitty, B.A., J.P.	St. George's, Cecil Road, Boscombe
1909	Chapman, Miss	Wiveton Hall, The Marina, Boscombe
1912	Charsley, Mrs.	Camborne, Belle Vue Road, Southbourne
1918	Chart, Mrs. Jas.	Toynbee, St. Peter's Road
1912	^A Chilver, Miss K. M.	79, Richmond Park Road
1911	Clark, Walter Child	Michelgrove House, Boscombe
1920	<i>Clarke, Miss E.</i>	4, Watkin Road, Boscombe
1917	[Clifford, Miss Winsloe]	6, Walpole Road
1908	Coddington, E. F.	St. Frideswide, 94, Southbourne Road

1904 Druitt, J., J.P.
 1906 [Dunning, Mrs.]
 1914 Dyer, J. Herbert

Avebury, 10, Madeira Road
 The Homestead 21, St. Clement's Road
 Saltoun, 54, Westbourne Park Road

E

1904 [Earle, Dr.] deceased
 1917 Edwards, John Rowland
 1913 Ellis, Hy. J.
 1920 *Ellis, John Constable*
 1918 [Ellis, Mrs. L. M.]
 1904 Elwes, Captain G. R., J.P.
 1909 Evans, P. H. L., M.A.
 1916 [Evans, Rev. L. H., M.A.]

East Hayes House, Bath
 The Woodlands, 5, Hayes Avenue
 Chesterford, Richmond Park Avenue
 Whyte Gables, Highcliffe, Christchurch
 The White House, The Butts, Warwick
 3, Yarborough Road, Southsea
 Stirling House, Manor Road
 Milcombe Vicarage, near Banbury

F

1918 Fallows, John Arthur, M.A.
 1918 Fallows, Mrs.
 1919 *Farmar, Mrs. K. A.*

Danehurst, Brunstead Road
 " " "
 Whitton Lodge, Stevenson Crescent, Parkstone
 15, Alumdale Road
 West Heath, 23, Belle Vue Road, Southbourne

1918 [Ffennell, Mrs.]
 1918 [Ffennell, Miss M. R.]
 1914 Fielding, Thos., M.D.
 1903^{50A} Firbank, Miss, LL.A., A.C.P.
 1917 Forrest, Mrs.
 1918 [Fowler, Miss R. A.]
 1919 *Fowler, Miss M.*
 1919 *Fowler, Miss R.*
 1906 Frean, G. M.
 1910 Frean, Mrs.
 1915 Frean, Miss E.
 1913 Freeman, Miss E.
 1915 [Freeman, Geo. Broke]
 1918 Freeman, Geo. A., B.SC., LOND.
 1918 Freeman, Mrs. M. H.
 1918 Freeman, Miss L. H.
 1918 Freeman, Frank G. W.
 1909 French, J. M.
 1916 [Furner, Miss Kemp]

" " "
 " " "
 " " "
 Genesta, West Hill Road
 5, Buchanan Avenue
 Hillsborough, 36, Westbourne Park Road
 The Hydro, West Bournemouth
 Lerryn, Chessel Avenue
 " " "
 " " "
 " " "
 Corona, Annerley Road
 Hasland, 13, Grosvenor Road
 75, Paisley Road, W. Southbourne
 " " "
 " " "
 " " "
 " " "
 Jumpers House, Christchurch
 Calluna, 4, West Cliff Road

G

1917 Garnett, H. A.
 1917 Garnett, Mrs.
 1917 [Garrard, Miss]
 1918 Gent, Wm. Hy.
 1913 George, Arthur Durancé
 1918 [Gibbins, B.]
 1914 Gill, Edwin R., A.R.C.P.
 1918 Godfery, Col. Masters John,
 F.L.S.
 1903 oGoodall, T. B., F.R.C.V.S., F.L.S.
 1914 Gosse, Wm., M.D., D.P.H., Camb.
 1916 [Grace, Geo., B.SC., Lond.,
 A.R.C.Sc.]
 1920 *Grace, Miss S. E.*
 1919 *Graham, John*, D.L. Co. Durham.

18, Campbell Road, Bosecombe
 " " "
 The "Hawthornes, 67, "Richmond Wood Road
 Holme Cote, 30, Montagu Road, W. Southbourne
 Chewton Lodge, Highcliffe, Christchurch
 Troutbeck, Birchwood Road, Parkstone
 Rosslyn, Seldown, Poole
 C/o Messrs. Cox & Co., 16, Charing Cross, London, S.W. 1.
 Purewell Cross, Christchurch
 The Links, Sandecotes Road, Parkstone
 Inglenook, Keighley
 New Bohemia, 1 Nelson Road
 Montrose, 2, Milton Road

- 1919 Graham, T. G. D.
1918 [Gray, Miss A.]
- 1904 Gray, A.
1911 Gray, Geo. W.
1911 Gray, Mrs.
1920 Green, Dr. E. A.
1920 Green, Mrs.
1920 Greg, Mrs. F. L.
1918 Grenfell, Field-Marshal Lord
of Kilvey, G.C.B., G.C.M.G.,
LL.D., F.S.A.
1914 Greves, E. Hyla, M.D., M.R.C.P.
1914 Greves, Stanley S. Hyla
1917 Griffiths, Capt. David
1917 Grindley, Miss E.
1916 Grubb, Rev. H. P., M.A.
1920 Gunther, Miss
1919 Gwynn, Neville Claude
- 1914 Haig, W. S.
- 1915A [Hall, Chancellor T. C.]
1919 Hall, J. T., L.D.S., R.C.S.
1910 Hamilton, Mrs.
1918 Hamilton, Rd., M.D.
1920 Hamilton, S. de C.
1913 [Hammer, Miss A. G.]
1918 [Handsley, Mrs.]
1918 [Handsley, Miss]
1913 Hannah, W. Rainsford
1916 Hannah, Mrs.
1908 AHarding, Miss
1918 Harkness, Mrs. J. C.
1913 Harris, Miss K.
1912 Harrison, Henry
1914 Hartley, Dr. J.
1914 Hartley, Mrs.
1914 Hatton, Rev. C. O. S., B.A.
(Camb.), F.L.S.
1919 Havelock, Mrs. Broadfoot
1917A Hawkins, R. W.
1917 Haydon, Clement J.
1918 Haythorne, Edward Colin
Campbell
1919 Heathcote, Chas., F.R.I.B.A.
- 1919 Heaton, Guy, M.A.
1917 Henderson, Miss A. T.
1919 Henry, Hugh S.
1911 Henslow, Revd. Professor Geo.,
M.A., F.L.S., F.G.S.
1918 *Elected an Honorary Member
1919 Hewett, Miss
1916 [Hill, Rev. Reginald J., M.A.]
1909 Hill, S. McCalmont, D.C.L.
1919 Hill, Rev. Thos. E., M.A.]
1919 Hill, Miss
1904 Hinton, Miss
1918 [Hobson, Miss]
- 1916 Holgate, Mrs.
- Cranemoor, Highcliffe, Christchurch
West Heath, 23, Belle Vue Road,
Southbourne
Woodville, 26, Melville Road, Winton
Darena, 15, Wellington Road
" "
Oriël Dene, 55, Wimborne Road, Winton
" "
33, Harcourt Road, Boscombe "
St. Rode, Parsonage Road
Rodney House, 19, Poole Road
" "
Bakrota, 82, Belle Vue Road, Southbourne
Riverbank, Brockenhurst
Surrey Lodge, Balmoral Road, Parkstone
Garswood, 27, Stirling Road
6, Berkeley Road
- ## H
- Birchwood Cottage, Birchwood Road,
Parkstone
6, Verne Road, Rodwell, Weymouth
Stoke Prior, 25, Poole Road
Boscombe Place
100, Alexandra Road, Parkstone
Reston Lodge, 1, Milton Road
66, Lowther Road
West House, 30, Portarlington Road
" "
West House, 30, Portarlington Road
" "
Alma Road Council School
Hawkley, 27, West Cliff Road
Trescott Grange, Harvey Road, Boscombe
Eden Lodge, Surrey Road South
62, Portchester Road
" "
Hinton Admiral Vicarage, Christchurch
Devonshire House, Richmond Hill
Fairhurst, Christchurch
Ben Veula, 29, West Cliff Road
Forest Lodge, Burton Road, Branksome
Park
Charters House, Western Road, Brank-
some Park
St. David's, 51, West Cliff Road
Springbank, 22, Fox Road, Greenock
4, St. Anthony's Road
Danehurst, 40, Branksome Wood Road
159, Alexandra Road, Parkstone
Leyburn-Lea, Belvedere Road, Scarborough
Stonecote, Presteign, Radnorshire
The Staithe, 30, Knole Road
" "
Welcombe, 1, Argyll Road, Boscombe
The Hawthorns, 67, Richmond Wood
Road
116, Parkwood Road

1910	Holmes, C. F.	Brackenwood, 37, Southern Road, West Southbourne
1909	Holmes, Mrs.	"
1911	Holmes, Miss S. C. M.	4, Beaufort Road, West Southbourne "
1911	Homer, L. V. C.	Carron, 54, Southcote Road
1912	[Honeyman, Mrs.]	Stormont, Milton Road
1912	[Honeyman, Miss M. W.]	"
1920	Howe, Commander Aubrey W., R.N.	Belmont, 59, Lowther Road
1911	Hudson, F.	Peñarol, Parkstone
1911	Hudson, Mrs.	"
1917	Hume, Dr. Geo. H.	Lawnswood, Beechey Road
1917	Hussey, Chas.	18, Grand Avenue, W. Southbourne
1919	Hutton, S. K., M.B., F.R.G.S.	Kivalek, Parkstone Road, Poole

I

1905	Ibbett, F. W., M.A.	Central Education Office, Yelverton Road
1920	*Elected an Honorary Member.	
1914	Instone, Thos.	31, Portchester Road
1914	Instone, Mrs.	" "
1914	[Instone, Allan C.]	" "
1914	[Instone, Mrs .A. C.]	" "

J

1912	James, Thos. Bath	Trevenen, Howard Road
1912	James, Mrs.	" "
1912	[James, Miss G. G.]	" "
1920	James, S.	" "
1911	Jeffery, T. J. P.	Meldon, Ormonde Road
1911	Jeffery, Miss R.	" "
1912	Jeffery, Miss E. S. M.	Boscombe Grange, Percy Road
1917	[Jermyn, F. L.]	Brinklea, 10, Wimborne Road
1919	Johnstone, H. J. R.	Wolverton, 44, Alum Chine Road
1919	Johnstone, Mrs.	" "
1917	[Jones, Miss M.]	10, St. Stephen's Road
1908	A Jones, W.	Council School, Boscombe
1905	Jones, W.	254, Old Christchurch Road

K

1910	Kay, A. J.	Winsgarth, 141, Lowther Road
1911	[Kaye, J. E.]	Tynedale, 38, Portchester Road
1917	*Kelsall, Rev. J. E., M.A.	Milton Rectory, New Milton, Hants
1914	[Kenrick, Archibald] deceased	Broom House, 37, West Cliff Road
1912	Keogh, Duncan	The Warren, 13, Richmond Wood Road
1912	Keogh, Mrs.	"
1916	Kersey, H. A.	The Wye, 3, Bean Park Road "
1913	Killick, H. F.	Rawdon, 9, Marlborough Road
1916	Kilner, Miss E. M.	St. Mary's, Chessel Avenue
1919	Kilner, Miss R. M.	" "
1919	Kilner, Miss S.	" "
1919	Kilner, John	" "
1912	[Kirkby, Mrs.]	Inglewood, Richmond Park Avenue
1920	Kitching, Mrs.	Fernworthy, Brunstead Road
1918	[Kohn, Arthur L.]	Fairhaven, Erpingham Road

L

- 1919 *Lacey, Howard* 50, Wellington Road
 1920 *Laidlay, H. W.* 7, St. Stephen's Road
 1917 *Langley, Miss C.* 96, Richmond Wood Road
 1919 *La Touche, Miss* Oakfield, Dane Court Road, Parkstone
 1910 *Latley, W. F.* Linden House, 21, Hawkwood Road, Boscombe
- 1917 [*Latley, Mrs.*]
 1919 *Leach, Miss M.* 5, Lansdowne Road
 1918 *Lee, E. Kenworthy* Rosebank, 39, Lansdowne Road
 1919 *Leigh, Mrs. A. H.* 24, Talbot Avenue
 1919 *Leigh, Miss C. C.* Wood Lodge, Penn Hill Avenue, Parkstone
 1919 ^A*Leigh, H.* 80, Victoria Road
 1910 *Lendrum, Miss A. M.* c/o Mr. de Paiva
 1917 [*Leverson, Montague Rd., M.D., M.A., P.H.D.*] 79, Irving Road, W. Southbourne
- 1917 *Ley, Dr. Hy. Jas.* 62, Herberton Road, W. Southbourne
 1917 *Ley, Mrs.* " " "
 1905 **Liddiard, Jas. E., F.R.G.S., M.N.G.S. (U.S.A.)* Rodborough Grange, 66, West Cliff Road
- 1918 *Lindsay, Miss L.* Seathwaite, Corfe View Road, Parkstone
 1903o**Linton, Rev. E. F., M.A., F.L.S.* Edmondsham, Salisbury
 1916 *Logan, Mrs.* 10, Argyll Road
 1920 ^A*Love, Wm. J. E.* St. Clement's School House
 1909 *Lucas, Arthur* Croftmoor, 23, Dean Park Road
 1919 *Luckham, John Bennett, M.A.* Cranemoor, Highcliffe, Hants
 1903 o*Lupton, Miss* Bolingbroke, Knole Road
 1911 *Lynch-Blosse, Rev. R. C., M.A.* Hawthorne Dene, 10, Cavendish Road
 1911 *Lynch-Blosse, Mrs.* " " "
 1909 *Lyon, Claude* Shalimar, Wilderton Road, Brankesome Park
- 1909 *Lyon, Mrs.* " " "

M

- 1911 *Macalister, R., M.INST.C.E.* Somerled, 29, Meyrick Park Crescent
 1920 *Macdonald, Ian B.* 4, Wellington Road
 1920 *Macdonald, Mrs.* " " "
 1908 ^A*Mackay, Miss* 492, Holdenhurst Road
 1911 *McBean, Miss J.* Inglenook, 29, Parkwood Road
 1909 *McBean, Miss S.* Froebelheim School, 47, Lowther Road
 1918 *McLaughlin, Fredk. Jas., M.Inst.C.E.* 3, Pinecliffe Avenue, W. Southbourne
- 1917 [*Manera, Lieut.-Col. G.*]
 1910 *Mann, W. P., B.A.* Avoncliff, 12, Knole Road
 1905 **Markwick, Col. E. E., C.B., C.B.E., F.R.A.S.* Bonds, Garstang, Lancs
 1917 *Marston, Miss G.* The Knowle, West Moors, Dorset
- 1913 *Martin, Miss F. G.* Bourne Hall Hotel
 1911 *Martland, T., L.R.C.P., M.R.C.S.* 32, Southbourne Road
 1916 [*Mason, Rev. A. L. A., M.A.*] Standish House, Fitzharris Avenue
 1906 *Mate, Ald. C. H., J.P.* Alington Grange, 9, Kerly Road
 1914 *Mate, Sidney J.* Elim, 3, Surrey Road South
 1918 *Matthews, Mrs. J. P.* 10, Landseer Road
 1919 *Matthews, Miss A.* 11, St. Katharine's Road, Southbourne
 1920 *May, Mrs. A. J.* 11a, " " "
 1918 *Mettam, Mrs. Wilford* Boa Vista, 105, Talbot Road, Winton
 1911 [*Michell, Mrs.*] 12, Crabton Close Road
 1920 *Miller, Miss E.* Merton, 54, Christchurch Road
 1913 *Moore, F. W.* Denham, 17, Cecil Road, Boscombe
 12, Chestnut Avenue, West Southbourne

1919	Moorhead, Mrs.	Brightlands, 34, Crabton Close Road
1908†	*Morris, Sir Daniel, K.C.M.G., J.P., M.A., D.Sc., D.C.L., LL.D. F.L.S.	14, Crabton Close Road
1911	Morris, Lady	52, "Lowther Road"
1918	Morter, Percy	The Grange, 52, Westby Road
1908	Moss, Miss	18a, The Triangle
1919	[Mull, Mrs. E.]	Hillingdon, Brunstead Road
1915	[Muncaster-Jones, Thos.]	" "
1915	[Muncaster-Jones, Mrs.]	" "
1915	[Muncaster-Jones, Miss]	" "
1919	Mutch, R. S., M.D.	West Grange, Sandecotes Road, Parkstone
1919	Mutch, Mrs.	" " " "

N

1919	Nankivell, Bertram W., M.R.C.S., (Eng.), L.R.C.P. (Lond.)	Woodstock, 2, West Cliff Road
1903	oNeale, J., B.A.	Clonemagh, Montagu Rd., W. Southbourne
1910	Neale, Mrs.	" " "
1910	Neale, Miss D.	" " "
1918	Neale, Miss J.	" " "
1918	Neale, Miss C. M.	14, Carysfort Road
1912	Neave, Mrs.	Lingdale, 73, Lansdowne Road
1912	Neave, Miss	" " "
1905	Neve, Miss G.	The Haven, Sea Road, Boscombe
1914	Norton, John J., J.P.	Ashton Court, Branksome Park
1914	Norton, Mrs.	" "

O

1917	Odlum, Walter Edwd.	Savoy Hotel, Bournemouth
1917	Odlum, Mrs.	" " "
1917	Odlum, Miss D. M., B.A.	" " "
1910	Oke, A. W., B.A., LL.M., F.G.S., F.S.A.	32, Denmark Villas, Hove, Brighton
1913	Oliver, Mrs. E.	The Carlton, East Cliff
1903	oOrd, W. T., M.R.C.S. (Eng.), L.R.C.P. (Lond.), F.A.S., F.G.S.	Bramber, 18, Littledown Road
1918	aOrmerod, Miss D.	Redlands, 20, Donoughmore Road, Boscombe
1920	Osborne, John H.	Woodside, Kinson
1920	Osborne, Mrs.	" "
1920	Osborne, Eric A.	" "
1919	Ottaway, W. Ernest	252, Old Christchurch Road
1918	Owen, Price	3, Durley Gardens
1918	Owen, Mrs. S. Walshe	30, Manor Road, Beckenham, Kent

P

1903	oPainter, Hubert, B.Sc., F.C.S.	29, Talbot Road, Winton
1904	Painter, Mrs.	" "
1919	Parker, Jas. Archibald Douglas	Brackenhill, Buccleuch Road, Branksome Park
1919	Parker, Miss M.	The Cliff, 13, Southwood Avenue, W. Southbourne
1920	Parsons, W.	Peebles, 26, Talbot Avenue
1920	Parsons, Mrs.	" "
1910	[Pate, Rev. J.]	Spencer House, Constitution Hill, Parkstone
1920	Payte, Miss E.	Tower House, Commercial Road, Parkstone
1918	[Pearson, John Armstrong]	1, Cecil Avenue, Richmond Park

- 1909 [Pechell, Sir A. Brooke, Bart.] c/o Messrs. Holt and Co., 3, Whitehall Place, S.W.1.
- 1915 Penrose, Francis Geo., M.D., Rathkeale, 51, Surrey Road
F.R.C.P., F.Z.S., M.B.O.U.
- 1916 Penrose, Mrs. " "
- 1916 Penrose, Miss F. " "
- 1916 Penrose, Miss M. " "
- 1912 Pestell, Miss Engelberg, Surrey Road
- 1918 Pewtress, J. B. 5, King's Park Road
- 1918 Pewtress, Mrs. " "
- 1911 Phillips, Mrs. 43, Alumhurst Road
- 1912 Philpott, Mrs. c/o Miss Cheere, 58, Barkston Gardens, S. Kensington, S.W.5
- 1920 Pilkington, Mrs. K. C. S. The Steyne, 9, Manor Road
- 1920 Pilkington, Miss K. D. " "
- 1920 Pilkington, Miss L. D. " "
- 1919 Pirie, Miss P. Fairleigh, Warren Edge Road, Southbourne
- 1920 Platten, Gerard Rotherfield Greys, New Milton, Hants
- 1918 Platnauer, Capt. H. N. St. Olaf, West Overcliff Drive
- 1919 Pollard, Mrs. Woodlands, 14, Percy Road
- 1914 Pollock, Mrs. 43, Wellington Road
- 1909 A Povah, Edwin 68, Parkwood Road
- 1909 [Preston, Donald] deceased. Bank Chambers, Yelverton Road
- 1916 Preston, G. A. Chalfont, 44, Belle Vue Rd., Southbourne
- 1911 Pullman, A. Womersh, Hathaway Road, Southbourne
- 1918 Punch, Cyril 60, Wellington Road

R

- 1915 A Rainer, A. J. 6, King's Park Road
- 1915 [Ramsay, Miss] Redroofs, Ipswich Road
- 1912 Rankin, W. Munn, m.sc. Municipal College, Lansdowne
(Leeds), B.Sc. (Lond.)
- 1916 Rankin, Mrs. Munn Stoneleigh, Heron Court Road
- 1917 Ranshaw, Miss E. M. 9, Warren Road
- 1904 †Ransome, A., M.A., M.D., F.R.C.P., 43, Portchester Road
F.R.S.
- 1918 *Elected an Honorary Member
- 1918 Ratcliffe, Mrs. Brooklands, 32, Branksome Wood Road
- 1919 Rayner, Miss A. M. The Homestead, 9, St. John's Road, Boscombe
- 1919 Rayner, Miss F. " " "
- 1905 *Rayner, J. F., F.R.H.S., M.B. Swaythling, Southampton
Myc. Soc.
- 1919 Reeves, E. J. Hillside, King's Avenue, Parkstone
- 1905 [Reid, Mrs. Alfred] Capital and Counties Bank, Boscombe
- 1919 Richards, Miss E. E. B.Sc. Eaglescliffe, Durley Gardens
(Lond.)
- 1920 Richardson, Miss M. R. S. 18, Bodorgan Road
- 1920 Roake, Miss St. Helen's, 9, Undercliff, Boscombe
- 1916 Roberts, Hy. Astley; B.A. Shalvah, Wilfred Road, Boscombe Manor
(Lond.)
- 1918 Roberts, Mrs. " " "
- 1916 Roberts, P. E., J.P. Northover, Dunbar Road, Talbot Woods
- 1916 Roberts, Mrs. " " " " "
- 1916 Roberts, Miss " " " " "
- 1910 Robertson, Mrs. Struan, 66, Middle Road
- 1910 [*Rogers, Rev. Moyle] deceased. Chetnole, 11, Grosvenor Road
- 1905 Rogers-Barns, Miss Bevois Cottage, 25, King's Park Road
- 1914 Rooke, Miss S. G. Norbury, 53, Paisley Road
- 1914 *Roper, Miss Ida M., F.L.S. 4, Woodfield Road, Redland, Bristol
- 1911 Ross, Rev. T. S. Lennox, 16, Foxholes Road, Southbourne

1907	[Ross, Col. W. H.]	Ambleside, 9, Dean Park Road
1916	Rothwell, Mrs.	
1906	[Russell-Wright, Rev. T., M.A.] deceased	92, Richmond Park Road
1912	Rutherford, R. C.	Bourne Hall Hotel
1910	Rutter, G. H., M.B.	Roxbury House, 22, Poole Road
1920	Rutter, Mrs.	The "Square, Wimborne"
1916	Ryley, S., Clement	

S

1910	[A]Saunders, Hugh A., B.A., F.R.G.S.]	Wellesley Road, Colchester
1913	Saunders, Miss L. M	Pine Cottage, Chester Road, Branksome Park
1917	Saunders, Mrs.	c/o Dr. Ley, 62, Herberton Road, West Southbourne
1919	Savage, J. W.	12, Pinecliffe Avenue, W. Southbourne
1912	Scarlett, Miss A.	Fermoy, St. Alban's Avenue
1912	Scarlett, Miss K.	" "
1912	Scarlett, Miss M.	" "
1908	A]Scattergood, J.	Alma Road Council School
1914	Scholes, Denton	Craigmoor, 7, Branksome Wood Road
1915	Scholes, Mrs.	" "
1919	Scott, G. B., C.I.E.	Glencoy, Surrey Road
1904	Scott, J. H., M.E., M.I.M.C.E.	Kirkby, Linwood Road, Charminster Park
1905	Scott, W. H., M.A.	Hendall, Westminster Road
1918	Sells, Leonard P.	Pearl Haven, Canford Cliffs
1916	A]Seeviour, G. C., A.C.P., F.R.H.S.	St. Peter's School House
1914	Sharp, Chas.	Langdon, Parkstone
1919	Sharp, Miss E.	" "
1919	Sharp, Miss F.	" "
1903	o]Sherring, R. V., F.L.S.	Hallatrow, near Bristol
1907	Sherring, Miss O. L.	" "
1914	[Sidgwick, Chas.] deceased	Lindsay House, Lindsay Road, Branksome
1914	[Sidgwick, Mrs. C.]	" "
1915	Simcox, Miss W.	203, Holdenhurst Road
1916	Simpson, Rev. E. J. Douglas, M.A.	Maesbury, 3, Cavendish Road
1918	Smith, Horace, M.A., M.D., Cantab.	Sunnyhurst, 7, Dean Park Road
1918	Smith, Miss M. A.	Woodside, St. Alban's Crescent
1917	[Smith, Percy]	The Club, Bournemouth
1918	[Smith, Mrs.]	" "
1918	Smith, T. Templeton, B.SC.	34, Cotlands Road
1918	Smith, Mrs.	" "
1914	Smyth, W. Johnson, M.D. (Edin.)	Pirbright, West Cliff Gardens
1912	Smythe, J. H. Ralph, J.P.	Willstead, 22, Cavendish Road
1915	Smythe, Mrs.	" "
1916	Smythe, Miss K. M.	" "
1919	Snell, Dr. Sidney Herbert	Purewell Hill, Christchurch
1919	Snell, Mrs.	" "
1919	Snell, Wm. Edwd.	" "
1912	Solly, Rev. Hy. Shaen, M.A.	5, Denewood Road
1918	A]Sothcott, Miss	Rowlands, 7, Markham Road, Winton
1917	Spencer, E. M.	22 St. Winifred's Road
1909	Spencer, J. F.	Glenthorne, 73, Richmond Park Road
1917	A]Spry, Miss A. G., LL.A.	60, Fitzharris Avenue
1916	Stiff, Sydney Jas., B.SC.	Norden House, Corfe Castle
1916	Stiff, Mrs. F. L.	" "
1916	Stiff, Miss F. A.	" "

- 1908 Stokes, R.
 1918 Story, F. N.
 1918 Story, Mrs.
 1918 Stuart, Capt. J. F., R.N.
 1918 Stuart, Mrs.
 1918 *Sumner, Heywood, F.S.A.
 1911 Swain, H. E.
 1906 Swallow, E.
 1920 *Swallow, Mrs.*
 1916 [Swayne, Francis Thos.]
 1905 Sworn, Mrs.
 1913 Sykes, Mrs.
 1913 Sykes, Miss
- Laverstock, Cliff Road, Boscombe
 Storyland, Warren Edge Road, South-
 bourne
 " " " "
 Chester House, Chine Crescent Road
 " " " "
 Cuckoo Hill, South Gorley, Fordingbridge
 Sorrento, Studland Road
 Westridge, Sandbanks, Parkstone
 " " " "
 24, Stourcliffe Avenue, W. Southbourne
 Normandale, 63, Lansdowne Road
 Oak Lodge, Talbot Avenue
 " " " "

T

- 1918 Tanner, Mrs. Edwd.
 1916 Tarr, Miss M. K.
 1911 Tatchell, Leonard
 1915 [Taylor, Jas.]
 1919 [Taylor, Miss M. E.]
 1918 [Taylor, J. Easton]
 1918 [Taylor, Mrs.]
 1915 Taylor, F. B., B.A.
 1916 Taylor, Mrs.
 1916 Taylor, Miss M. A.
 1916 Taylor, Miss M. W.
 1919 Taylor, Lieut. W. R.
 1917 [Thickett, Mrs. J. H.]
 1919 Thomas, Miss L. Y.
 1918 Thomson, Alfred S.
 1911 Thomson, Mrs. Roberts
 1919 [Thompson, Thomas] deceased.
 1919 ΔThompson, Wm., M.A.
 1918 Thompson, W. W.
 1918 Thompson, Mrs.
 1918 Thompson, Miss
 1918 [Thompson, Mrs. A. H.]
 1916 Thoroton, Rev. L. E. W.
 1920 *Thorpe, Godfrey Francis*
 1920 *Thorpe, Mrs. M. S.*
 1919 *Thorpe, Hy. C.*, B.Sc., A.M.I.C.M.
 1919 *Thorpe, Mrs.*
 1911 Tickell, Miss S. M.
 1911 Towsey, Miss E. L.
 1911 Turner, J. E.
 1914 Twemlow, Miss E. E.
- Normanton, 27, Marlborough Road
 Sandsfoot, Chester Road, Branksome Park
 43, Spratt Hall Road, Wanstead E.11.
 61, Lansdowne Road
 " " " "
 21, Stourwood Avenue, W. Southbourne
 " " " "
 Thurgarton, 55, Grand Avenue
 " " " "
 " " " "
 " " " "
 Woodlyn, Branksome Avenue
 22, Hamilton Road
 Cartref, Parkstone Road, Poole
 Sunnbrae, East Avenue, Talbot Woods
 Monkchester, 17, Manor Road
 Basing, 24, Littledown Road
 Meersbrook, Portland Road, Winton
 Sledmere, 19, Cavendish Road
 " " " "
 " " " "
 " " " "
 Hill House, Spencer Road, Canford Cliffs
 Sandelford, 18, Walpole Road, Boscombe
 " " " "
 64, St. Michael's Road
 " " " "
 " " " "
 Pinewood, 56, Stourcliffe Avenue, West
 Southbourne
 16 Rushton Crescent
 Bramley, Surrey Road
 Devon Lodge, 83, Alumhurst Road

U

- 1912 Usherwood, Rev. Canon T. E.,
 M.A. Bagdale, Parkstone

V

- 1913 Veale, Miss A. G. Fairdale, Howard Road
 1910 Veale, Miss L. H. " " "
 1910 Veale, Miss M. C. " " "

1912	Veale, Miss B.	Lexden, 15, Richmond Wood Road
1917	Veale, Miss C. M.	
1908	Vernon, Lieut.-Col., A. H., L.R.C.P., F.R.C.S.	1, "Carnarvon Crescent, Boscombe"
1918	Vernon, Mrs.	Drayton, Queen's Park Gardens
1918	Vernon, Miss	
1919	[Vernon, E. K.]	Milano, 43, Cavendish Road
1919	[Vernon, Mrs. M. S.]	
1918	Vickers, Herbert U.	32, "Lowther Road"
1918	Vorse, John	School House, Hinton Admiral, Christ- church

W

1903+	Waddington, H. J., F.L.S.	Moreton, 107, Lowther Road
1918	*Elected an Honorary Member	
1916	Walby, Arthur Edwd.	Netherton, 2, Dean Park Road
1919	[Walker, Chas. H. H., M.A. OXON., F.C.S.] deceased.	Glenawe, 2, Oban Road
1919	[Walker, Mrs.]	" "
1918	Walker, Robt. S.	Ellesborough, Ormonde Road, Branksome Park
1918	Walker, Mrs.	" " " "
1918	Walker, C. B. Osborn	" " " "
1918	Walker, Miss G. M.	" " " "
1913	Wallace, Wm. G.	Doveshill Farm, Ensburly Mount, Bourne- mouth
1920	Wallace, Mrs.	" "
1912	Walter, Mrs. G. P.	Rusholme, 10, St. Anthony's Road "
1920	Wanstall, Wm. Sidney	Del Monte, 6, Rostin Road
1920	Wanstall, Mrs.	" "
1909	Warr, Miss A.	Cottesmore, Pokesdown Hill
1905	Waters, A. W., F.L.S., F.G.S.	Alderley, 2, McKinley Road
1906	Waters, Mrs.	" "
1912	Watts, Col. Sir Wm., K.C.B.	The "Priory, 53, Branksome Wood Road
1918	Webb, Mrs. Nasmyth	Bibury, Wilderton Road, Branksome Park
1914	Webber, A. E.	28, Tower Road, Boscombe
1909	Webster, Rev. T.	Devonia, 2, Chatsworth Road
1917	Webster, Mrs.	" "
1920	Wells, Rev. Edwd., M.A.	Hillside, "23, Studland Road
1906	Wells, H. B.	Stalham, 16, Studland Road
1913	Wetherell, Miss M.	Triana, 21, Harvey Road, Boscombe
1920	Wetherell, Miss S.	" "
1918	Whitaker, S.	22, Somerset Road, "Boscombe"
1918	Whitehead, Chas.	Heathfield, 8, Cambridge Road
1918	[Whitehead, Miss]	2, Cliftonville, Exeter Road
1911	Whiting, Albert	Rozel, 7, Pinecliffe Avenue, West South- bourne
1920	Whiting, Mrs.	" "
1920	Whittle, Mrs. E.	Doveshill Farm, Ensburly Mount, Bourne- mouth
1916	Whyte, A. C.	Byberry, Roslin Road
1916	Whyte, Mrs.	" "
1916	Whyte, Miss M. C.	" "
1916	Whyte, Miss M. N.	" "
1920	Wigram, Miss J.	Hurlingham, 14, Manor Road
1913	Willes, W. A.	Elmwood, Cranborne Road
1920	Willes, Mrs.	" "
1915	Williams, Dr. C. E. Campbell	Branksome Chine "House, Beech Road, Branksome Park
1919	Williams, John	Stebenheath, 56, Southcote Road

- | | |
|-------------------------------------|--|
| 1917 [Williams, Hy.] M.V.O., I.S.O. | Kinfauns, St. John's Road, Branksome |
| 1918 Wing, Miss | Sunny Hall, 19, St. Swithun's Road |
| 1917 Wingfield, T. R. | 12, Suffolk Road |
| 1914 Wood, W. H. | Arosa, Tower Road, Branksome Park |
| 1916 Wood, Mrs. | " " |
| 1918 Wood, W. B. | " " |
| 1918 [Wood, Mrs. Wm.] | Highcliffe Hotel |
| 1905 Woodhouse, W. J., A.C.P. | 35, Chatsworth Road, Malmesbury Park |
| 1918 Woodhouse, Mrs. | " " |
| 1914 A Woodhouse, Wm. | Attleborough, 34, Wimborne Road |
| 1917 Woodward, Chas. H., A.M.I.E.E. | Kenistone, Richmond Park Crescent |
| 1909 Woollacott, J. C. | Solent View, 141, Belle Vue Road, South-
bourne |
| 1919 [Wright, Capt. H. Newcom] | 48, Wellington Road |

Y

- | | |
|---------------------------|---------------------------------|
| 1908 [Yates, R. P.] | Woodmanton, 35, Wellington Road |
| 1918 Young, Andrew Aytoun | 35a, Branksome Wood Road |
| 1918 Young, Mrs. | " " |
| 1917 A Young, Miss A. | 6, Salisbury Road, Boscombe |
| 1918 Young, Miss F. E. | The Briars, 71, Lowther Road |

RULES OF THE Bournemouth Natural Science Society.

Amended February 7th, 1920.

- Title** 1.—The title of the Society shall be THE BOURNEMOUTH NATURAL SCIENCE SOCIETY.
- Objects** 2.—The objects of the Society shall 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, or by any other means that the governing body of the Society shall deem advisable.
- 3.—The Society shall encourage the making of reports on any plant, animal, or object of interest, and where the Society may deem it necessary, shall take such steps as may be advisable to secure any such plant, animal, or object of interest from injury, extinction or destruction.
- Members** 4.—The Society shall consist of Ordinary, Life, Associate, and Honorary Members.
- Council** 5.—There shall be a Council of the Society consisting of the Hon. Treasurer, one or more Secretaries, Honorary or otherwise, the Vice-Presidents who have filled the office of President, the Hon. Librarian, the Hon. Editor, the Hon. Curator, the Chairmen of Sections and twelve elected Members.
- The Council shall have the general management of the Society. At all Meetings of the Council, five shall form a Quorum. The Council shall elect their own Chairman and Deputy-Chairman for the Year, and shall have power to fill up any vacancies in their number which may occur from time to time. The Council shall have power to appoint Committees to deal with any business that may be delegated to them.
- The Chairman, or in his absence the Deputy Chairman, at all Meetings of the Council shall have an original and a casting vote.
- The Council shall have the control of the Funds of the Society.
- Executive Officers** 6.—The Executive Officers of the Society shall consist of the Chairman and Deputy Chairman of Council, Hon. Treasurer, and one or more Secretaries, Honorary or otherwise.
- 7.—The Ordinary, Life, and Associate Members of the Society shall be proposed by an existing Member, and seconded by another existing Member, and notice shall be sent to one of the Secretaries of the Society of the names and address of the nominee, and the names of the proposer and seconder. Any such proposed new Member shall be voted for at the next ensuing Council Meeting, and if two-thirds of the Council present and voting shall vote for the proposed new member, such candidate shall become a Member upon payment of the Annual Subscription, and shall receive a card of membership (not transferable) entitling him or her to attend the Meetings of the Society. Members joining during August and September shall be given a card of membership to September 30th of the following year.
- Ordinary Members.** 8.—Ordinary Members shall pay an Annual Subscription of Ten Shillings, due on the first day of October in each Year. The Annual Subscription for Adult Members of the same family, not exceeding four and residing in the same house, shall be Twenty Shillings, each Member being elected in the usual manner and each receiving a card of membership. In the case of Members elected after February 7th, 1920, the above mentioned rate of subscription shall be doubled.

9.—The Subscription for Life Members shall be Five Guineas. Any Ordinary Member who shall have commuted his Subscription, as provided for in this Rule, shall become a Life Member, but shall not by reason thereof have any different rights from those of an Ordinary Member. In the case of Members elected after February 7th, 1920, the above mentioned rate of subscription shall be doubled. Life Members.

10.—Associate Members are those who by payment of an Annual Subscription of Two Shillings and Sixpence are entitled to attend all the General Meetings and Excursions of the Society. They also have the privilege of attending the Meetings and Excursions of one particular Section they may select at the time of their Election, or at the commencement of each Session, their choice being notified by them to the Hon. Treasurer. The following are entitled to become Associate Members on Election by the Council:— Associate Members.

(a) Teachers in schools who are still engaged in the active duties of their profession.

(b) Persons, who in the opinion of the Council, although unable to pay the fee for full membership, are by their acknowledged scientific tastes or attainments, likely to prove useful working Members of the Society.

On further payment of Two Shillings and Sixpence Associate Members are admitted to the Meetings and Excursions of all the Sections. In the case of Members elected after February 7th, 1920, the above mentioned rates of subscription shall be doubled.

Associate Members shall have no power of voting on the affairs of the Society, or of holding office.

11.—Any person who is either distinguished in Science or has rendered any special service to the Society, may be elected an Hon. Member. Such Hon. Members shall be proposed and elected in the same way as Ordinary Members. Honorary Members

12.—Any Visitors introduced by a Member or producing a Member's card, may be admitted to any Meeting or Excursion of the Society on entering their names and that of the introducing Member in the Society's Visitors' Book. Such privilege not to be granted more than twice to any one person in each Session. Visitors

On the recommendation of the Council or Committee authorised by it, Visitors to Bournemouth desirous of attending the Meetings or Excursions of the Society, may obtain a ticket of admission for the Winter or the Summer Meetings or Excursions at a charge of Seven Shillings and Sixpence. Application to be made to the Hon. Secretary for submission to the Council or Committee authorised by it.

13.—Any Members whose subscriptions are unpaid at the end of the financial year (September 30th), on notice to that effect in writing having been given to them by the Hon. Treasurer, shall be reported to the Council, who shall have the power of removing their names from the list of members.

14.—Resignations should be in writing, and addressed to one of the Hon. Secretaries, and until such are received by them, Members remain liable for their subscriptions.

15.—The power of expulsion of a Member from the Society for objectionable conduct shall be vested in a General Meeting of the Society, provided the Council has caused special notice to be given on the circular convening the Meeting, and that two-thirds of those present and voting agree thereto.

16.—The Council shall arrange all Lectures, Papers, Demonstrations and Exhibitions of Specimens, etc., both for the General and Sectional Meetings of the Society, and shall decide upon all General and Sectional Excursions.

Sections

17.—The Council shall have power to form any Section or Sub-Section, to consist of not less than six Members, for the study of any special subject which the Council may deem within the scope of the Society's work. They shall annually appoint the Chairman of any such Section or Sub-Section on the nomination of that Section or Sub-Section.

A Section shall consist of those Members who attend in each year not less than three meetings of such Section.

The Chairman of each Section shall appoint a Secretary, who in addition to the ordinary secretarial duties shall keep a list of the Members of the Section.

Sectional Meetings

18.—Each Sectional Chairman shall be responsible for the preparation and arrangement of each Sectional Meeting and Excursion, and shall submit details of the same to the Hon. Secretary for submission to the next ensuing Meeting of the Council. He shall submit accounts of costs incurred by him to the Hon. Treasurer, after each Meeting or Excursion, who shall lay the same before the Council at their next ensuing Meeting. At the first Meeting of each Section or Sub-Section in the Year, after the Annual Meeting, such Section or Sub-Section shall nominate its Chairman.

19.—A book for each Section shall be provided by the Secretaries to be kept at the Society's Room; each Chairman of Section, or his Secretary shall enter therein an account of each Meeting, with number of Members attending, and notes of any matters of interest observed or discussed. Such book to be presented at each Meeting of the Council. Every Chairman of Section shall report at each Meeting of the Council. Every Chairman of Section shall report as to the work of his section at the Annual Meeting of the Society.

20.—Any Members of the Council other than Ex-officio Members who shall have failed to attend half the Meetings of the Council held in any one year, provided that such non-attendance be not caused by illness or absence abroad, shall not be eligible for re-election, except by desire of the Members present at the Annual Meeting.

The President

21.—The President need not necessarily be selected from Members of the Society, and shall be elected annually. He shall deliver an Address at as early a date in the Winter Session as can be arranged.

Vice-Presidents

22.—Any Member of the Society who, in the opinion of the Council, shall have rendered distinguished service to Science or to the Society, shall be eligible for election as a Vice-President at the Annual Meeting, as long as he or she remains a Member of the Society.

23.—Each of the Vice-Presidents in rotation shall be requested to act as Chairman at the General Meetings of the Society.

Secretaries

24.—The Secretaries shall perform all the usual secretarial work; shall keep minutes of all Council Meetings, and the Annual Meeting; and a synopsis of all General Meetings. They shall cause a programme of each General Meeting to be sent to every Member seven days at least before each such Meeting. They shall make all preparations for carrying out all General Meetings and General Excursions, at which they shall receive from each Member his or her share of the day's expenses, and therefrom defray all costs of the Meeting. Any surplus of such collection shall go to the General Fund, and any deficit be defrayed out of that fund. They shall keep an account of all out-of-pocket expenses incurred in arranging Meetings and otherwise. They shall give notice of their election to all new members, they shall furnish a copy of the Annual Report to all Members who have paid their subscription, to Honorary Members, and to any such Scientific Societies as the Council may from time to time appoint to receive them.

25.—The Honorary Treasurer shall have the custody of the General Funds of the Society. He shall prepare a Financial Statement at the end of each Financial Year to be presented to the Council at the Meeting next preceding the Annual Meeting. He shall receive and acknowledge all Subscriptions, and shall issue tickets of Membership to all persons who are duly elected and have paid their Subscriptions. He shall bring before the Council any accounts that are due for payment. After presentation of the Balance Sheet to the Council, he shall submit it to the Auditors and lastly to the Annual Meeting of the Society.

26.—At the Annual Meeting and at all General Meetings of the Society, not less than ten Members shall form a quorum.

27.—At the Annual Meeting, which shall be held in the month of October, the President, the Executive Officers (except the Chairman and Deputy Chairman of the Council), the Hon. Librarian, Hon. Editor, Hon. Curator, twelve Members of Council and two Auditors for the ensuing year shall be elected (either Auditor having the power to audit the accounts in the unavoidable absence of the other). At this Meeting the Council's Report of the past year, together with those of the Chairmen of Sections, and the Hon. Treasurer's statement of accounts, duly signed by the Auditors, shall be submitted.

28.—Alteration in the Rules shall be sanctioned by a majority of not less than two-thirds of the Members present and voting at the Annual Meeting, or at a Special Meeting called for that purpose, and no alterations shall otherwise be made.

29.—Notice convening an Annual or Special Meeting, together with any proposed alterations in the Rules, shall be given to Members at least seven clear days before such Meeting be held. Notice of General Meetings, and Council Meetings (if possible) shall be given at least seven clear days beforehand.

30.—On a written requisition, signed by at least five Members of the Society, the Council shall call a Special Meeting to consider any question as to the affairs of the Society, such Meeting to be called within three weeks of the receipt of the requisition, and at least seven days' notice shall be given to the Members. At such Meeting no other business than that mentioned on the requisition, and on the notice convening such Meeting, shall be considered.



Presidential Address.

*Delivered December 14th, 1918, in the Large Hall of the
Municipal College, by*

FIELD MARSHAL LORD GRENFELL OF KILVEY, G.C.B., G.C.M.G.,
LL.D., F.S.A.

The Art of Ancient Egypt.

SCIENCE and Art, though not identical, are surely twin sisters. In Egypt when the sculptor made his model or the architect his proposal for a tomb or temple, Science was required to move the gigantic blocks and to provide the means for cutting the statues out of the hardest possible diorite or red granite. Again, the colossus having been completed the finely cut inscriptions at the base had to be made.

These are so sharp and so perfect as to rival the finest attempts of our own epoch. How the colossi were originally cut from the rock and by what means the hieroglyphic inscriptions were added is unknown to us. In the days of the ancient dynasties iron had not yet been discovered, but numbers of copper chisels and other copper implements have been found, and it is supposed that means of hardening the metal was known which is unknown to us at present.

A similar secret may have existed in Peru, where copper was used for swords, daggers and other weapons; and, according to Schliemann, also in ancient Troy.

So I think I can claim that in the making and the removal of these vast colossi and gigantic slabs of the hardest stone Engineering Science had, in those early days, taken its place beside its sister, Art.

As regards the cutting of the hieroglyphics and the delicate work in the hard stone, Petrie has given his opinion that diamond drills must have been used, but no diamonds have yet been found in any tomb in Egypt.

I propose to devote my address to a discussion on the character of Egyptian art, principally in distinguished statuary, which is by far the most important, most artistic and most successful of its branches.

Next to the statuary comes the embellishment of the tombs and temples, inferior to the statuary but still an artistic system of great interest in Egyptian art. I am able to show to-day a few examples of this embellishment by paintings and drawings and of jewellery, metal work, glazed ware, glass and pottery, mostly smaller objects which were placed in the tombs.

Firstly, the property of the deceased buried with the mummy, and, secondly, innumerable objects which were constructed as

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MUSEUM

25 FEB 30

NATURAL
HISTORY.

NOTE ON PLATE

(illustrating the Presidential Address).

The Black Basalt Head of a Pharaoh was found among the debris in a 12th Dynasty Tomb, excavated by Lord Grenfell, at Assuan. The tomb had been entered and rifled, perhaps during the Persian Invasion.

The original was a sitting figure of the usual type—but of unusually fine workmanship—and was broken, with the exception of the bust, into small fragments. It is of the finest work of the 12th Dynasty and is a striking specimen of the Renaissance of Art of that period. The face expresses great power and determination. Cut in the hardest stone, it is evidently a careful portrait of the Pharaoh—executed by a talented and skilful sculptor. The cast, which has been lent to the Museum of the Society, was made under the supervision of Dr. Budge for the British Museum—and replicas are exhibited in the Louvre and Turin.

The original fetched a large sum at Lord Grenfell's sale.



BLACK BASALT
HEAD OF A KING,
PROBABLY AMENEMHAT III.
[XIIIth Dynasty - About B.C. 2400]

HEAD OF A PHAROAH.

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NATURAL
HISTORY.

food—luxuries and necessities for the Ka double of the deceased. To this part of the Egyptian religion we owe the thousands of objects which now adorn our Museums.

The emblems of the gods either in statuary, pictures or amulets protected the deceased from evil influences and enabled him to continue to exist, and the imitative figures of various foods, drink and other necessaries enabled the Ka or double, as Maspero calls it, to lead a pleasant life in Amenti, the paradise which was believed in.

Egyptians believed that it was possible to transmit to the figure or picture of any man, woman, animal or living creature the soul of the being which it represented, its qualities and attributes, and thus every statue possessed, to the people of Egypt, an indwelling spirit. Christianised Egyptians proved that they held this belief by their endeavour to throw down and destroy the statues of the gods of the Greeks and Romans and thus bring to nought the spirits which dwelt in them. It is stated in the Apocryphal Gospels that when the Virgin Mary and her Son arrived in Egypt there was quaking through all the land and all the the idols fell down from their pedestals and were broken in pieces. Then a certain priest explained that the footstep of the Son of the hidden God had fallen on the land of Egypt, they accepted this and made a figure of this God.

It is unfortunate that neither in England nor any European country has a single book been produced treating in sufficient detail of the whole history of antique Art, following its progress and transformations from its origin down to the epoch when the barbaric invasions put an end to the ancient forms of civilisation, and prepared for the birth of a modern world and the evolution of a new Art.

Works compiled by the savants who accompanied Bonaparte to Egypt first introduced the antiquities to us, but at that time Champollion and those who followed him had not discovered the key to the hieroglyphics, and therefore the descriptions of the monuments do not enable us to assign relative dates to them.

The result of discovery has been to show that the most ancient Art-civilisation sprang from Chaldea and the Valley of the Nile, Egyptian Art being the more ancient. Beautiful and wonderful specimens of art, of which we possess examples, were produced during the long series of Egyptian dynasties from the age of Mena, and, through the agency of the Phoenicians, there was an exchange of ideas and of objects of art, traces of which can be found both in Egypt and in Assyria.

Much influence in art was spread by the Phoenicians, who were the agents of intercourse between Egypt and the East, the people of Asia Minor and Assyria, and the bonds are close which bind the Hellenic civilisation to the far more ancient system which was born on the banks of the Nile, and crept up the valleys of the Tigris and Euphrates to spread itself over Asia Minor. The

Phoenicians also carried the forms of their own Astarte over the whole basin of the Mediterranean. But to ancient tombs we are indebted for the great numbers of weapons, of golden ornaments, statuettes and figurines (objects placed in the tomb for the protection of the soul or Ka of the deceased) such as are found all over the world in various countries, from our barrows to the discoveries of Schliemann, and the still greater number of objects in the Valley of the Nile.

What is called the prehistoric period, which has only been accepted during the last twenty years principally on evidence described by Professor Petrie, is supposed to have begun 8,000 years B.C. Then came the 1st dynasty (5,500 B.C.), which brought entirely new influences into Art. The prehistoric work is much more symbolic than artistic, feet and hands were omitted, and limbs ended only in points. In the 1st dynasty the character of Art is changed, figures and forms appear full of life and character.

The Pyramid Age (4,700 to 4,000 B.C.) brought in new ideas. The great works of the early Pyramid Kings, Senofern and Khufu, were the gigantic Pyramids of the most accurate workmanship, and there was a larger collection of artistic work as regards statuary than in any other period of the world's history. In expression of royal dignity the figures of Khufu and Khafra are unsurpassed, nothing can compare with the early art of the Pyramid Kings. The 6th dynasty produced a decadence in the art, but at the closing of the 11th and beginning of the 12th a revival took place. Figures are more elaborated and the works of this dynasty, by losing the grandeur of the earlier periods, are more finished, more exact and pleasant. The 18th and 19th dynasties are popularly known as the age of Egyptian Art because of the number and variety of the objects produced under their Kings.

The reign of the 12th dynasty is known as the Middle Kingdom, that of the 18th as the New Kingdom. Syrian influence brought by captives of Thothmes I., II. and III., now appeared in Egyptian art. In the 19th dynasty a decadence of art is noticeable.

In Cyprus the excavations of Lang and Cesnola reveal to us its art, partly Egyptian and partly Assyrian. Many lucky finds have taken place, such as the Palestrina Treasure near Rome and Sabyman's excavations at Rhodes, and from these—coupled with the wonderful treasure found in Egypt—are supplied links which attach the arts of Greece and Italy to the earlier civilisations of Egypt and Assyria. In Egypt most ancient documents are continually coming to the surface to shed new light on the history of antiquity. The splendid papyri, now in the Louvre, Turin, the Vatican and the British Museum, have enabled us to be acquainted with the life, the devotions, the architecture, the sport, the trades, the wars, and, above all, the system of burial in ancient Egypt.

Besides this, vases, gems, glass, mirrors in bronze and copper, plaques, figurines, terra cotta bas-reliefs and statuettes were produced in enormous quantities for thousands of years. The size of many of these objects contributed to preserve them from destruction. More numerous and better sheltered beneath the sand of Egypt than the heroic masterpieces of fine art, they survived when many of the latter perished, and made us acquainted with the Egyptian modes of thought and of life. The little statuettes which were in continual use in Egypt for religious and other purposes give us the most precise and accurate information as to dress and social customs, and sometimes afford particulars of divinities and of rites which were but imperfectly described in the writings of classic authors.

Except in Architecture, sepulchral and religious, which I do not attempt to touch on much to-day, the Art of Egypt is entirely connected with the tombs and the pictures, bas-reliefs, and objects found in those which have been opened. The paintings in the tombs are very vivid and interesting, but are executed without any idea of perspective. The plans of houses, palaces and temples were executed by the artist in a rather child-like manner as can be seen, for instance, in a photograph of the plan and front of a house from a tomb in Tel-el-Amara. The colours are very vivid and the different foliage of the trees is closely followed, but they are shown as lying flat on the green which, however, is not a bad manner of expressing the ground-plan. Their temples were of noble proportions with a style of architecture peculiar to themselves and were richly decorated by scenes of battle carved on the walls. The Pavilion of Medinet Abou restored by Chipies, an artist and architect, is an example.

But in the short time at my disposal to discuss the Art of Egypt I desire to go more into the pure Art itself as shown in the figures, paintings, and the innumerable objects, all of which come from the tombs.

In the tombs artists, painters, and sculptors worked at the decoration with figures of their gods, heroes, and warriors as in ancient Greece Zeus, Apollo, and Pallas were so greatly honoured.

In sepulchral architecture the ancient Empire at Memphis is the most original and characteristic. In the new Empire at Thebes novel forms of belief had modified the Art. In Memphis simplicity and grandeur found expression in the tombs of this period of which Tis is the best example.

During the 4th dynasty of the ancient Empire the greatest masterpieces were produced, including the two famous statues found in a tomb near Meidoum. The one, a slide of which is shown, represents Ra-Hotep, Prince of the Blood, a General of Infantry. The other is a woman—Nefert—or the Beauty. She was related to the King, but we know not whether she was the wife or sister of Ra-Hotep. But the interest is increased by our certainty of the very great antiquity, about 4700 B.C. In the

tomb where they were found everything was frankly archaic and as old as those of the tombs at Sakkara. These date from before the 4th dynasty. The figures are carved from a single block of limestone, the man nearly nude, the woman robed in the long chemise common to women of this period. The wide, richly-designed necklace spreads over her breast, the pose of the body is easy and natural, modelled freely and truly, and by means of the chisel and paint-brush the sculptor has given an individuality not easily forgotten.

To me the most wonderful of all the ancient figures which have been found is the Scribe now in the Louvre. It is marvelously natural and life-like. He is seated cross-legged, and any visitor to the Levant must have seen in the Audience Hall of the Kadi or the Pasha the Scribe crouching in the same fashion before the chair or divan, registering sentences or writing despatches. The Scribe is listening, his features vibrating with intelligence, his black eye-balls positively sparkling, his mouth is only closed because respect keeps him silent; his arms are free of his sides, their position easy and natural, one hand holds a strip of papyrus upon which he writes, with the other he holds his reed-pen.

At this period very fine panels were executed, and under the 5th dynasty funerary statues were cast in bronze. Bronze is mentioned in the texts which date from an earlier period than the construction of the great Pyramids and the bronze statue, 2ft. 2in. high, shown on the screen is of that period.

Sculpture under the Second Theban Empire.

The warlike Kings, masters of Ethiopia and Western Asia were only contented by the colossal. Their buildings were immense, and the vast wall spaces were eminently adapted for the sculptor, and these surfaces were filled with historic scenes, victories and triumphs, and the images of the King, which corresponded with the magnificence of the colonnades. Whether cut at Ipsamboul or Thebes, Memphis and Tanis, under gigantic monoliths, their proportions were immense, and they were more thickly gathered at Thebes than elsewhere, in the immediate neighbourhood of the two seated statues of Amenophis the Third.

The savants of the French Campaign found the remains of fifteen more colossi. These statues were generally seated, but the colossal one of Rameses, at Memphis, is 44ft. high and cut from a single block of hard limestone, and, though it belongs to England, the difficulty of transport has made it impossible to move it. It is a wonderful specimen of the 19th dynasty, and the sculptors of this period brought out their sitters' individuality with marvellous sincerity.

One of the most beautiful pieces of sculpture—almost in the world—is the head, which, alas! is the only part that remains,

of the Queen Taia now in the Boulak Museum at Cairo, which I exhibit on the screen. Mariette believes that she was neither Royal nor even of Egyptian blood, she may have been Asiatic, as the Empire of her husband extended to Mesopotamia, and she is stated to be the chief author of those religious tragedies which so greatly disturbed her epoch.

Stone used in Sculpture.

Diorite was hardly ever used in any but the 4th dynasty. Green basalt was used in the 18th. The latter takes the highest place. Black granite comes next in quality, but has a coarser grain. In diorite the best quality of workmanship appeared. Statues of great delicacy were sculpture in limestone, a soft material which hardened by the work of time. Alabaster has similar properties. It is seldom seen except under Amenhotep II. to IV.; it was then often used. Another school of sculptors used the quartzite sandstone of Gebal Ahmar, especially under the 12th dynasty. Red granite is found at Assuan, where statues and obelisks still lie unfinished in the quarries.

The great colossi of Abu Simbel and the long avenue of sphinxes at Thebes are of Nubian red sandstone.



Report of General Summer Excursions, 1919.

Romsey Abbey Church. This was the first general excursion of the season. Starting from the Square at 10.30 a.m. in motor chars-a-banc, the route taken was through the Forest, Lyndhurst and Cadnam. **May 24.** On arriving at Romsey, lunch was taken, and at two o'clock the party was met by the Vicar, the Rev. A. J. Robertson, M.A., who gave an interesting account of the history of the Abbey of St. Mary and St. Elfleda. An address was then given by Mr. W. G. Horseman, who traced the development of the architecture of the Abbey Church and afterwards conducted the party round the building, pointing out its many notable features and showing the communion plate and old registers. After this the party, numbering 99, took tea at the Church Hall. The return journey was by way of Stoney Cross, Ringwood and Heron Court. The weather was everything that could be desired.

Milton Abbas June 25. When the party started rain was falling, but the weather soon improved and the afternoon turned out fine and warm. The motors took the party near to St. Catherine's Chapel (Saxon) overlooking the Abbey Church, the park and the hill beyond. The outside of the chapel was inspected and attention drawn to the three small holes in the lintel of one of the doors into which Dorset maidens used to put their fingers when invoking the aid of St. Catherine to find them husbands. After lunch the visitors walked down through the wood to the Abbey Church where they were met by the Rev. Walter Greswell, the vicar-in-charge, who showed them over the building and took them back to the Chapel to see the interior. A walk through private grounds led to the village and the Parish Church of St. James was visited. Seventy-six members took part in the excursion.

Salisbury Cathedral and Mueum. On Wednesday, July 16, an excursion was made to Salisbury in which 39 members took part. Starting from the Square in motor chars-a-banc, the route taken was via Iford Bridge, Hurn, and the main road through Fording-bridge. Passing Breamore, a momentary halt was made to see the stocks, opposite the Bat and Ball Inn. Proceeding to the Cathedral, the Rev. Canon Bourne met the party at the north porch and from the lectern gave a short and interesting account

of the Cathedral and its architecture, and then led them through the building, the cloisters and chapter-house. Several objects of interest in the Close and St. Ann Street were pointed out by Mr. de Castro en route to the Museum, where the party was received by the Curator, Mr. Frank Stevens, F.S.A., and invited into the garden where they took lunch, during which Mr. Stevens entertained them with stories of Salisbury and Old Sarum. After lunch the party went into the Museum where Mr. Stevens gave an address on (1) Paleolithic Salisbury, (2) Stonehenge, (3) Late Celtic Period. He showed a complete skull and some of the bones of pre-historic man found in the excavations at Old Sarum, also a number of specimens of old china recently presented to the Museum. Tea was taken in the garden. The cars left at about 5 o'clock on the return journey, via the village of Alderbury, where stands the Green Dragon Inn mentioned in "Martin Chuzzlewit." An admirable ground plan of Salisbury Cathedral, drawn by Mr. George Brumell, A.R.I.B.A., was in the hands of all the party.

**Shaftesbury and
Old Wardour Castle.
August 16.**

The last general excursion of the season took place on Saturday, August 16, when over 120 members went to Shaftesbury and Old Wardour Castle. Starting from the Square, they drove via Horton Inn and Farnham to Wardour where, by the kind permission of Lady Arundell, they were allowed to drive through the park to the private chapel, which was shown by one of the Fathers, the very beautiful altar and vestments being greatly admired. They then went to Old Wardour Castle, where the Rev. H. Shaen Solly, M.A., read papers on the history of the Castle and on Shaftesbury. The old Castle is beautifully situated and near it are some fine cedars and a remarkable ironwood tree. The drive to Shaftesbury was then resumed and the members were there shown the Church of St. Peter, the Abbey ruins and the extensive view from Castle Hill. Tea was taken in the Town Hall and, leaving at 5.30 and returning by way of Cranborne Chase, the party got back to the Square at about 7.30.

Notes on the Sections and their Work.

<i>Section.</i>	<i>Chairman.</i>	<i>Secretary.</i>
Archæological and Historical	Rev. H. SHAEN SOLLY, M.A. ...	Mr. HENRY J. ELLIS.
Botanical ...	Rev. C. O. S. HATTON, B.A., F.L.S.	Miss ELSIE B. RICHARDS, B.Sc.
Entomological ...	Dr. F. G. PENROSE, F.R.C.P., etc.	Mr. W. G. WALLACE.
Geographical	Mr. CLAUDE LYON ...	Mr. W. J. WOODHOUSE, A.C.P.
Geological ...	Mr. W. MUNN RANKIN, M.Sc., B.Sc.	
Photographic and Record	Mr. R. Y. BANKS ...	Mr. E. DODSHON, LL.B.
Physical ...	Mr. HUBERT PAINTER, B.Sc. ...	Miss MARCIA PENROSE.
Zoological and Microscopical ...	Dr. F. G. PENROSE, F.Z.S., etc. ...	Mr. H. B. WELLS (Zoology). Mr. F. B. TAYLOR (Microscopy)

In order to economise space the summaries of the Reports read by the Chairmen of Sections at the Annual Meeting have been omitted from this volume. Full lists of the various sectional meetings and excursions will be found in the Council's Report on an earlier page and a few special notes, chiefly on field-work, are printed below.

Archæological and Historical Section.

CHAIRMAN'S NOTE.

On 12th December, 1918, a conference was held to discuss possibilities of archæological and photographic record work. Mr. Banks undertook the latter in connection with his own section. A further discussion led to a resolution to undertake a topographical survey of the Bournemouth area, and this was entrusted to, and kindly undertaken by, Mr. Heywood Sumner, F.S.A., and Mr. W. G. Wallace. A set of Ordnance maps was purchased and found to require several corrections and much amplification. A full report, with many illustrations specially prepared by Mr. Sumner was presented to a meeting of the section on April 15, 1920, and to the Council on May 3, and will be available for publication in our next volume of *Proceedings*. Of immediate interest is the fact that the Survey shows that much valuable information may be obtained by careful excavation at certain selected points, and it is hoped that attention will be given to this matter at an early date.

Botanical Section.

CHAIRMAN'S NOTE ON FIELD WORK.

In an area which has been so well worked as the Bournemouth district, it is not often that the occurrence of species new to the district can be recorded. In the past season, though nothing of a very startling nature was discovered, the field work of the section was interesting and instructive, and the excursions were well attended.

The discovery of *Lobelia urens* at Hinton Admiral has already been recorded and it is very satisfactory to note that the Rev. E. F. Linton, in the new appendix to his "Flora of Bournemouth" agrees in considering the locality a native station. During the war a considerable number of trees near the locality were cut down and the *Lobelia* has in consequence very greatly enlarged its boundaries and increased enormously in quantity. There is an interesting note in the minute book of the Botanical Section for October 1, 1909, to the effect that Colonel Ross brought a specimen of *Lobelia urens* for inspection which had appeared in his garden. It is possible that formerly the species was more widely distributed in the neighbourhood and that common fires and the planting of the pine trees nearly exterminated it.

Hinton has also produced another rarity in *Fritillaria Meleagris*, a specimen of which was on show in the Society's exhibition of wild flowers at the Free Library. Pending further investigation this must of course be considered as a doubtfully native station. A large colony of *Viola palustris*, by no means a common plant in the district, has also been found at Hinton.

An excursion to Christchurch Harbour produced some interesting plants. A nice colony of about a dozen specimens of *Cynoglossum officinale* was found which has only previously been recorded from Kinson and Swanage in the district. The *Spartina* grass (*Spartina Townsendi*), the spread of which in Poole Harbour has from time to time been recorded in our proceedings, has now thoroughly established itself in Christchurch Harbour, the first plant being noticed in 1912 at the side of the "run." It was then very small and did not seem to flourish for a year or two, but it has now grown to a clump about two yards in diameter. Nine other clumps—three or four of them big ones—were noticed last year within the Harbour and as the locality would seem to be ideal, it will no doubt increase as quickly as it has done in Poole Harbour, and it is more than likely that it may become a very serious matter if steps are not soon taken to destroy it.

Many other interesting plants have been noticed during the season but as they have been recorded from neighbouring localities it would not be worth while to mention them again here. *Verbas-cum Blattaria* however, on Burton Common, must not be omitted as it has not been recorded for the Hampshire side of Bournemouth since 1861.

SPARTINA REPORT, 1919.

By R. VOWELL SHERRING, F. L. S.

There has been a steady and general growth during the year. Anyone standing on Constitution Hill cannot but note the change in the last few years; there is less water and more grass. The first insular patch seen to the left of the Fever Hospital, which started in a few small clumps, has increased so rapidly as to approach meadowing. Beyond that there is a long band facing Brownsea Island and extending west of the island to where it is broken by Wych Channel, thence it continues in the direction of Shipstal Point and off Arne there is a great thickening. There has also been an extension and a considerable thickening of the patches and shore band at Whitley Lake. The clumps show a larger size and one extends to near Sandbanks Post Office. Brands Bay shows steady growth and from Goathorn past Ower to Arne shore there is marked progress. At Arne a new feature showed itself. The shores were covered with clumps and scattered *Spartina* mixed with the usual *Zostera*. It is evident this was caused by some meadow being carried away or the grass approaching a deep current. Professor Oliver and myself take this to be a purely local phase. During the meeting of the British Association 40 members accepted an invitation from Professor F. W. Oliver and myself to see the grass in its best form and extent at Fitzworth Point, the Pisgah of Poole Harbour, and were conveyed by Mr. Brown via Shipstal Point, Long Island and Round Island. From the high ground the vast extent of the grass and the rapid closing of the channel between Round Island and the shore were pointed out. The Professor then proceeded to Nath Point showing where the *Spartina* was killing the *Scirpus maritimus*. The party returned by the Wych Channel to Poole and saw the passage between Long and Round Islands now closed by the grass, which makes the circuit of these islands.

N.B.—A sketch-map of Poole Harbour, in which the places mentioned in this report are marked, will be found in Volume VII. of the "Proceedings."

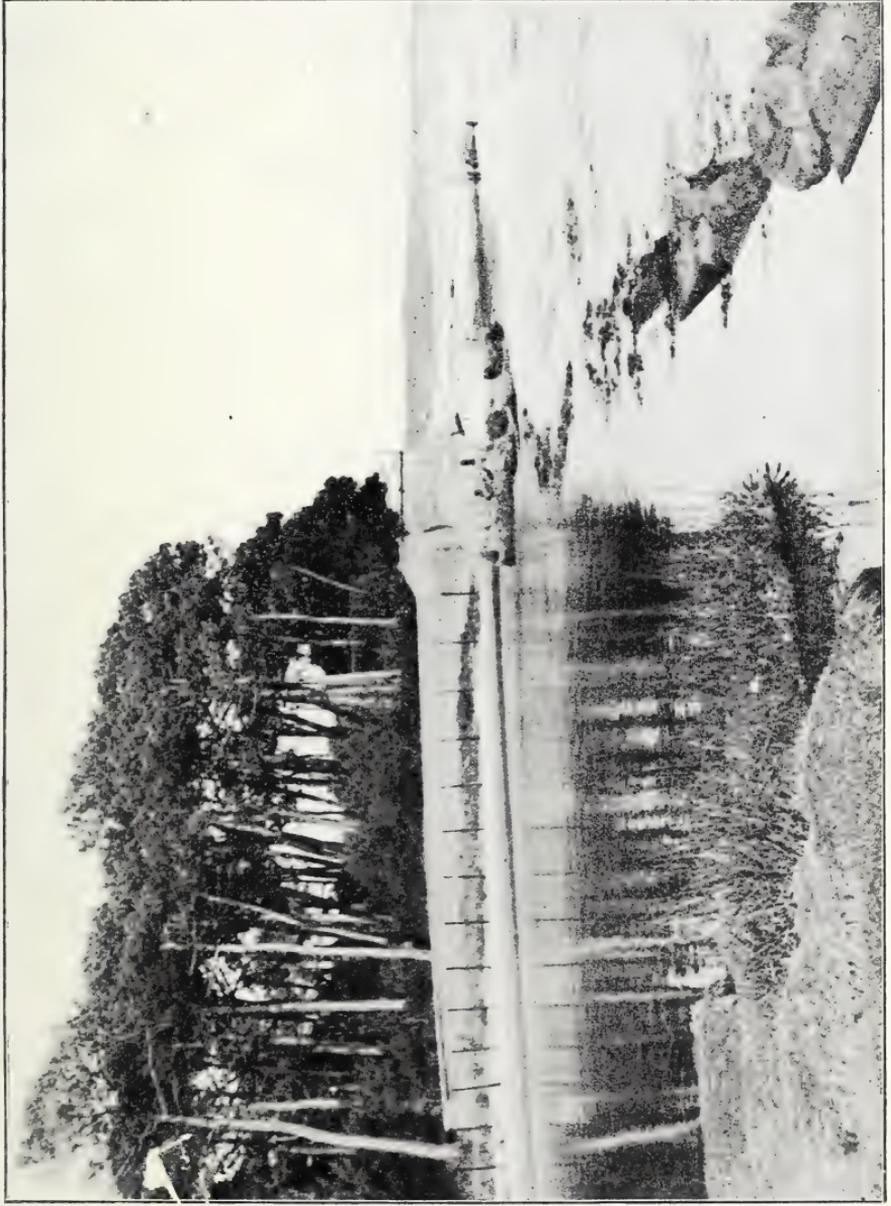
Entomological and Zoological Sections.

NOTE BY CHAIRMAN.

There was a General Lecture on December 3, 1918, by Mr. F. W. Edwards, B.A., on "Mosquitoes and Malaria in England."

Mr. Edwards, who is an Assistant in the Department of Entomology of the Natural History Museum, has made a special study of our English Gnats, often spoken of under their synonym of Mosquitoes.

It may be remembered that the Entomological Section of our Society was asked by the Mosquito Investigation Committee of the



Spartina in Christchurch Harbour.

BRITISH
MUSEUM
25 FEB 30
NATURAL
HISTORY.

South Eastern Union of Scientific Societies, on behalf of the Local Government Board, to investigate and report on the distribution of Mosquitoes in this neighbourhood.

The report can be seen in last year's volume of our proceedings. Mr. Edwards undertook to lecture at the request of the Mosquito Investigation Committee of the South Eastern Union of Scientific Societies, and our Society was so fortunate as to get him to come to us. An abstract of his lecture appears elsewhere in this volume. The other lectures and excursions of the Entomological and Zoological sections have already been mentioned in the Council's Report.



A Selection from the Lectures and Papers given before the Society.

Contributions to a Theory of Beetle Colouration:

Abstract of a Paper by
JOSEPH NEALE, B.A.

(Read before the Zoological Section, November 6, 1918.)

TO any one general statement of a theory of colouration there are so many exceptions that the theory may appear to be discredited unless it is remembered that cross-currents of tendency require careful analysis before the broader features are detected, and that the protection due to colour is a relative rather than an absolute immunity.

Subject to this introductory caution, it may be stated that all colour is purposeful and the following generalisations show the correlation of the habits and colours of beetles:—

1. Beetles of habits mainly nocturnal or crepuscular—that lie hidden in the daytime—are chiefly black or dusky.
2. Beetles of diurnal habit are coloured:
 - (a) in mottled or broken shades which assimilate them to their surroundings, or
 - (b) in colours more or less conspicuous, rendering the insects easily visible.

Of (b) are all the “carnivorous ground beetles” many of which, though black as befits their nocturnal habit, are shiny and readily seen in daylight, while those chiefly diurnal, as the “sunshiners” to be seen on our roads and paths in spring, glitter in metallic sheen of bronze or copper, or in variegated black and red, black and yellow, or black, red and yellow, in glaring contrast.

“Carnivorous water beetles” are dull olive brown for concealment, or in chequers or stripes of black and red or yellow. The great *Dytiscus* is olive green above but with a warning border and underside of yellow, which are conspicuous as it rises to the surface to breathe. “Cocktails” such as the Devil’s Coach-horse and its allies, another family of flesh and carrion feeders, are, if diurnal, in warning colours of black and red.

“Soft-skinned beetles”—soldiers, sailors; glow-worms and their allies—all flesh eaters, are red and black, yellow and black, or dusky yellow brown, and all appear to be uneatable.

“Carriion feeders” and burying beetles and their allies are black if nocturnal—if diurnal, are very gay with a warning pattern of black and yellow.

“Dung beetles,” if diurnal, are black and yellow, or black and red. Many conspicuous plant-feeders are metallic, shining in bronze, blue, green or purple, or with two or more of these colours combined. They do not attempt to hide, and many secrete acrid fluids in both larval and adult stages. On the other hand the whole tribe of weevils are coloured to hide and presumably are eatable. Two distant families of beetles mimic the colouring of *Mutilla*, an ant bee with a vicious sting. Others imitate wasps or bees in colour and even in form and gait. *Donacia*, a genus of edible plant-eaters, mimics the most varied forms of inedible flesh-eaters. For instance, the similarity of a series of *Donacia* sp. to *Elaphrus*, *Anchomenus albipes* and other riparian Geodephaga can hardly escape notice. Here the model is not so common as the copy and the question arises, is this Müllerian rather than Batesian mimicry? The writer, believing *Donacia* to be eatable, thinks the mimicry is Batesian. The appearance of *Donacia*, though in very great numbers, is for a short time, and follows by weeks the appearance of its models, which enjoy a much longer season. Is it possible that *Donacia* during its short season enjoys an immunity previously won by the Geodephaga? Have we in this case model and copy not so much contemporaneous as successive? This would introduce a new factor of succession in time into some cases of mimicry.

A survey of the entire field supports the view that almost all non-vegetarian beetles and many plant feeders are bad eating and court observation. The eatable vegetarians have methods of escaping detection, or elude capture by jumping or dropping into shelter.

NOTE.—The following species, figured in colour by Mr. Neale, were used to illustrate the paper:—

Elater sanguinolentus and *Athous niger* (diurnal and crepuscular shipjacks), *Cicindela campestris*, *Carabus nitens*, *Demetrias atricapillus*, *Brachinus crepitans*, *Dytiscus marginalis*, *Paederus* sp., *Staphylinus cæsius*, *Silpha 4 maculata* (diurnal), *Necrophorus vestigator* (taken 1 pm. near Corfe), *Cetonia aurata*, *Onthophagus* sp., *Telephorus* sp., *Pyrochoa* sp., *Metoecus paradoxus*, *Callidium alni* and *Clerus formicarius* with *Mutilla* their model, *Hylurgus*, *Rhagium* sp., *Clytus arietis*, *Chrysomela* sp., *Cionus* sp., *Cryptorhynchus lapathi*.

OLD MAPS OF HAMPSHIRE, DORSET and WILTSHIRE.

Report of a lecture by
HEYWOOD SUMNER, F.S.A.

(Given before the Archæological and Historial Section, November 14, 1918.)

THE lecturer gave a brief history of English County Maps from A.D. 1579 onwards and an account of the methods adopted by the old map-makers for indicating hills, forests, castles, churches, houses and other natural and artificial features. He also spoke of the curious inscriptions placed in vacant spaces on the maps. Comparing old time maps with those of the present day, he pointed out that the former, with their beautiful lettering, varied and ingenious borders, heraldic emblems and numerous quaint conceits imparted in a delightful manner such history and geography as were then known. Modern maps, on the other hand, are far superior in accuracy and, by means of contour lines, contrasting colours and other devices, convey a vast amount of definite and detailed information to those able to read them intelligently.

Mr. Heywood Sumner then gave the list of maps printed below and concluded with some observations summarised in the "Note" which follows the list.

CHRISTOPHER SAXTON. The original edition of his Atlas of England, folio, was published in 1579, under the patronage of Mr. Seckford, and with the authority of Queen Elizabeth. The survey took nine years (1565-1574) (Bartholomew). It contained 35 maps, including Southampton, Dorcestria, and Wiltonia. A later edition was published in 1689, entitled, "The Shires of England and Wales defcribed by Christopher Saxton. Being the Best and Original Mapps with many Additions and Corrections by Philip Lea." These additions to Saxton's plates were plans of county towns, high roads and coats-of-arms, besides nine new maps, four by John Seller, one by W. Morgan, one by Jonas Moore, and three unsigned.

JOHN NORDEN. "Hamshire olim pars Belgarum," "Weighte," 1595. There are three maps of Hampshire by Norden, one drawn to the scale of $\frac{1}{3}$ inch to 1 mile, another to the scale of $\frac{1}{4}$ inch to 1 mile and engraved by W. Hole. No date. The third (to the same scale as number 1) is inscribed "Hamshire." "Jno. Norden descripsit. Printed and sold by John Overton." This map is embellished with heraldic ornament. There is a copy of the last in the Central Public Library, Bournemouth.

WILLIAM KIPP. "Dorcestræ, committatis vulgo Dorfett ubi olim Durotriges infederunt," 1607.

JOHN SPEED. "Hantfshire defcribed and devided." Signed "Jodocus Hondius (*), cœlavit." No date. "Wight Island defcribed by William

(*) Jodocus Hondius, of Amsterdam, followed various pursuits. He studied mathematics and made mathematical instruments and types for printing, besides engraving portraits and maps. Born 1563, died 1611.

White, gent., augmented and published by John Speed, citizen of London." No date. "Dorsetshyre," signed "Jodocus Hondius cœlavit. Anno. 1610." "Wiltshire," signed the same. Speed's Atlas is entitled "A Prospect of The Most Famous Parts of the World, Together with all the Provinces, Counties and Shires contained in that large Theater of Great Brittaines Empire." It was published in 1611, and was mostly based on Saxton's work amplified by Norden (Bartholomew).

W. HOLE. Maps illustrating Michael Drayton's "Polyolbion," 1613, folio, with figures symbolical of towns, forests, rivers, islands, etc., amongst which maps is one that includes Hampshire and Dorset and another that includes Wiltshire.

THOMAS ALDWELL. "A Mapped or Plott of Cranburne Chace. Lying in Dorsetshire, Wiltshire, and part of Hampshire Where in two Sortes of Bounds of the said Chace are sett forth and expressed called the large Boundes and the short Boundes By vertue of a Comission out of his Highnes Court of Exchequer Directed to Sr. Francis Popham, Sr. John Dauncy, Sr. Antho-Hungerford Knightes and Thomas Hinton Efquier, Plotted and performed by Thomas Aldwell and others. Anno Dñi 1618." The above is reproduced in "King John's House," by Gen. Pitt-Rivers, 1890, quarto.

RICHARD HARDINGE. A map of Cranborne Chase reproduced in "A Chronicle of Cranborne," by Dr. Wake Smart, 1841, "from an original Map taken and drawn by Richard Hardinge, of Blandford, A.D., 1618, which was copied by Matthew Hardinge, of Blandford, A.D. 1677, and diligently examined and compared with the original by H. J. Dolling.

JOHAN BLAEU. "Hantonia sive Southamptoniensis comitatus vulgo Hantshire," 1652. "Vectis Insula. Anglice. The Isle of Wight." "Comitatus Dorcestria Sive Dorsettia, vulgo Anglice, Dorsetshire." "Wiltonia, sive comitatus Wiltoniensis, Anglis, Wiltshire." (Blæu's Atlas was published at Amsterdam.)

RIC. BLOME. "A generall Mapp of Dorsetshire," 1671.

OGILBY. "Itinerarium Angliæ," 1675. An octavo printed throughout from engraved plates. The first maps that record roads with a certain measure of precision.

ROBERT MORDEN. Hampshire, Dorsetshire, and Wiltshire, 1695, in Gibson's edition of Camden's "Britannia." They are poorly designed and executed.

HERMAN MOLL. "A set of fifty new and correct maps of England and Wales," etc., 1724. Amongst which are included Hampshire, Dorsetshire and Wiltshire.

JOHN WILCOX. A map of Dorset in Coker's "A Survey of Dorsetshire," 1732 . . . "the particular description of this countie of Dorset, commonly called Dorsetshire."

EMANUEL BOWEN and THOMAS KITCHIN. "The Large English Atlas, or a New Set of Maps of all the Counties in England and Wales," among which are included "A New Improved Map of Hampshire divided into its Hundreds of Thos. Kitchin. An Accurate Map of Dorsetshire divided into its Hundreds by Eman-Bowen, and An Improved Map of Wiltshire divided into its Hundreds by Eman-Bowen," 1765.

ISAAC TAYLOR, of Ross. "A Map of Dorsetshire surveyed and Engraved by Isaac Taylor on a scale of one mile to one inch," in six sheets, with etchings of Lulworth Castle, Corfe Castle, Maiden Castle, the Amphitheatre at Dorchester, Horton Tower, and Sherborn Castle, 1765. In this map the place-names are engraved while the general delineation is etched. The sites of some of the ancient earthworks are marked for the first time. Isaac Taylor also published a map of Hampshire to the same scale as the above, which may be seen at the Winchester Museum.

- ANDREWS & DURY. "A Topographical Map of Wiltshire on a scale of 2 inches to 1 mile," 1773. This interesting map is finely engraved, it marks the sites of some of the ancient earthworks, gives the names of the principal landowners, and the roads are delineated.
- PATERSON'S "British Itinerary Being A new and accurate Delineation and Description of the Direct and Principal Cross Roads of Great Britain," in 2 volumes, 1735. The best road book hitherto published. It went through 15 editions before Captain Daniel Paterson's death in 1820.
- CARY'S "New Set of County Maps, 1787, among which are included Hampshire, Dorsetshire and Wiltshire."
- J. CARY contributed excellent maps of Hampshire, Dorsetshire and Wiltshire to Gough's edition of Camden's Britannia. Folio 1789.
- WILLIAM FADEN. "A plan of His Majesty's Forest called the New Forest in the County of Southampton. From Surveys taken by Thos. Richardson, Wm. King and Wm. Driver, engraved and published by Wm. Faden." 1789. Scale—four inches to one mile. Hampshire or the County of Southampton including the Isle of Wight, surveyed by Thos. Milne in the years 1788, 89 and 90. Executed and published at the private expense of the proprietor, W. Faden, Geographer to His Majesty, 1791. Scale—one inch to one mile. This is finely engraved and coloured. There is a good copy in the Central Public Library, Bournemouth, also Hampshire reduced from the large map in 6 sheets by Wm. Faden, 1796.
- ISAAC TAYLOR. "The county of Dorset reduced from the large map in 6 sheets," published by Wm. Faden, 1796.
- AUTOGRAPH SERIES OF MAPS OF DORSET shewing the military preparations to resist the expected French invasion, and the resources of the county in stock, waggons, etc., 1801-03. In the Dorchester Museum.
- SIR RICHARD COLT HOARE. Ancient Wiltshire. Folio 1812. Contains maps of the county showing the various sites of ancient earthworks, etc., surveyed by Philip Crocker.
- CARY'S "Travellers' Companion, or a Delineation of the Turnpike Roads of England and Wales," 1817. A red leather-bound pocket book containing small maps of the counties, including Hampshire, Dorsetshire and Wiltshire.
- HAMPSHIRE. Engraved at the Drawing-room in the Tower under the direction of Lt.-Col. Mudge, 1817. Scale—one inch to one mile. See J. C. Bartholomew's "Cartography of England and Wales," for the various publications of the Ordnance Survey, of which the original series of counties was begun in 1801.
- JOHN ALBIN. "The Isle of Wight." Scale—one inch to one mile, 1823.
- C. & J. GREENWOOD. Hampshire—Dorset, 1829. Wiltshire, 1820.
- JAMES WYLD. "Hampshire, or the county of Southampton. Including the Isle of Wight. From an actual survey." 1840.
- CHARLES WARNE. "Illustrated Map of Dorsetshire. Its Vestiges, Celtic, Roman, Saxon and Danish," 1865. A valuable archaeological map, treated in a bird's-eye-view manner. The lettering is very difficult to read, and is a warning to amateur cartographers how NOT to letter a map, or plan. Apart from this defect, the graphic conventions used are expressive and legible.
- A MAP OF THE NEW FOREST shewing the portions enclosed from time to time for the growth of Navy Timber. Reduced from the map made by Messrs. Richardson, King and Driver, 1789, and corrected by Thomas Couchman, 1849, shewing the dates of the various Inclosures, etc., up to April 15, 1875. (Appended to the Parliamentary Return relating to the New Forest.)

MAP SHEWING ANCIENT AND MODERN AREAS OF THE NEW FOREST, as delineated by J. C. Moens, F.S.A., on the two mile Map of the Ordnance Survey, 1903. (A valuable record.)

NOTE.—This ends the list, which, however, is probably incomplete, for local maps exist in the chests of the Ordnance Survey and of great estate offices that are not accessible to the public. At least it may help an enquirer and present a nucleus for addition.

The Atlases and Maps enumerated above may be seen at the British Museum. There is an excellent collection of Dorset Maps at the Dorchester Museum; a few Hampshire and Dorset maps at the Central Public Library, Bournemouth; a few portfolios of Hampshire maps are at the Winchester Museum and the Hartley College, Southampton.

MOSQUITOES and MALARIA in ENGLAND.

Abstract of a General Lecture by
F. W. EDWARDS, B.A.

(Delivered at the Municipal College, December 4, 1918.)

MALARIA is an infectious, but not a contagious disease; it is not carried from person to person by direct contact but only through the agency of certain blood-sucking mosquitoes, the parasites which cause it undergoing an essential part of their life history in the mosquito's stomach. It was at one time very prevalent in the more low-lying parts of England, but in the latter half of the last century had entirely disappeared. However, although the disease itself had died out, the mosquitoes, which were concerned in spreading it—the same insects which still play this obnoxious part in the Mediterranean region—still continued to exist amongst us. There was, therefore, always a danger lest the introduction into this country of any considerable number of persons suffering from Malaria might cause a renewal of epidemics of the fever.

This danger, owing to war conditions, has now been realised, and during the last three years about 600 cases of Malaria have occurred amongst persons who have never left this country.

With the return in the near future of large numbers of soldiers who are suffering or who have suffered from it the danger of more serious outbreaks must be faced. Such being the case, it is most desirable that the public should obtain more detailed knowledge of the nature of the disease and of the methods of its prevention, and act on this knowledge when and as required. Since the malaria parasite undergoes one part of its life history in human blood, completes its development in a mosquito's stomach and can only infect a healthy person through the bite of an

infected mosquito, it follows that there are three main lines of action which may be taken in preventing the spread of the disease: (1) The parasite itself may be attacked in the blood of infected persons, (2) Measures may be taken to prevent mosquitoes biting such persons and so becoming infected, (3) Attempts may be made to exterminate or reduce in numbers the mosquitoes which, once infected, are capable of passing on the disease to healthy people.

In this country, owing to the comparatively small number of malaria patients, the most effective lines to follow are undoubtedly the first two. Steps may be taken to identify and treat medically all who recently had malaria fever, and as far as possible to ensure that as long as they are harbouring parasites in their blood they are not bitten by mosquitoes. It is satisfactory to know that both the Army and civil medical authorities are alive to the necessity of taking action along these lines. There remains, however, the third method of malaria prevention by mosquito control. While there may not be any present necessity to undertake any large scale campaign of mosquito extermination it is certainly desirable to take some steps towards reducing the numbers of these noxious insects in the districts where they are most abundant. Moreover, whatever anyone can do in this direction in any locality will help to minimise the danger of infection. To this end a knowledge of our native mosquitoes and their habits and life histories is essential.

Of the eighteen species of mosquitoes occurring in this country, three belong to the genus *Anopheles*, which includes all the malaria carriers. The remainder, chiefly woodland and salt marsh pests, are harmless from the point of disease carriage, though often annoying enough through their biting habits.

The three potential malaria carriers require different methods of attack on account of their different life histories which are briefly as follows:—

1. *Anopheles plumbeus* is not at all uncommon in wooded districts throughout the spring, summer and autumn, biting freely, and sometimes though not habitually entering houses. Its early stages are passed in the water which collects in holes in beech and other trees, either in the branches or at the roots. The simplest and most efficient method of attack is to fill up all such hollows and so obliterate the insects' possible breeding places; this should be done by preference in the winter, when there are no adult flies and when the water-carrying holes can be most easily discovered.

2. *Anopheles bifurcatus* is a very abundant species in marshy country and the neighbourhood of rivers and streams. It bites out of doors, chiefly at dusk, but seldom enters houses, and on this account may not be a serious danger. The flies themselves do not survive the winter, but the larvae occur all through the year in stagnant or slowly moving water, chiefly

at the weedy edges of ponds, streams and canals open to the sun. The best methods of attack are (a) where possible to eliminate collections of stagnant water by draining or filling; (b) keep the edges of streams, canals and rivers free from weed in order to give freedom to the natural enemies—small fish, etc.—of the mosquito larvae; (c) to kill off the larvae in these places and in ponds by periodically spraying with oil.

3. *Anopheles maculipennis*. This, though probably less common than the last, is certainly the most to be feared, since it not only bites out of doors, but also habitually enters buildings in search of its blood meal. The female lives through the winter, hiding in dark, warm places such as cellars and occupied cowhouses and stables, and during this time there are no larvae to be found. Hence the best place of attack in this case is to seek out the winter quarters of the insects and destroy them there, by spraying the walls with some insecticide such as a solution of formalin.

It is also advantageous to whitewash all farm buildings in the early winter, since the mosquitoes do not readily settle on light surfaces and when they do can be easily detected. The breeding places of *A. maculipennis* are similar to those of *A. bifurcatus*, and the same methods can be adopted against the larvae of the two species.

SURNAMES.

Abstract of a Lecture by the Rev. J. E. KELSALL, M.A.

(Given before the Geographical Section, December 6, 1918).

SURNAMES came into use in England gradually during the 13th and 14th centuries.

Their chief categories are given below, illustrated as far as possible from the list of members of the Society, but with no attempt to deal with Celtic and foreign names.

Books consulted:—Bardsley's "English Surnames."

Lower's Essays on "English Surnames."

Weekley's "Romance of Surnames."

Baring Gould's "Family Names."

With the help of these books any educated man can make an interesting lecture on the names of his neighbours, but in some cases it is necessary to "ask permission."

1. Christian and other personal names are older than family names. The following list is from a poem on Wat Tyler's rebellion:—

Wat, Tom, Sim, Bet (Bartholomew), Gib (Gilbert), Hick (Richard), Coll (Nicholas), Jeff, Will, Grig (Gregory), Daw (David),

Hob (Robert), Lorkin (Lawrence), Hud (Saxon), Jud (doubtful), Teb (Theobald), and Jack.

Allis and Neal were ancient Christian names.

Some Christian names were used as family names without alteration, such as Jeffery, Oliver.

Some as Diminutives or Pet-names, such as Atkins, Bartlett, Collins and Rankin.

Patronymics ("son of"), sometimes merely added S to a Christian name, as Adams, Harris, Matthews, Saunders (son of Alexander).

Sometimes they added the word *son*, as Johnson, Henderson (son of Hendrick, Heinrich, Henry), Dodson for Dodge-son (son of Roger), Simpson.

Price and Powell were Welsh patronymics, originally beginning with Ap.

Evans and Jones were Welsh for Johnson.

Saints' names were naturally popular at that period, especially when a particular shrine was fashionable, or if a child was born on a Saint's day :

Austen (Augustine), Bennet (Benedict), Lucas (Luke), Martin, Michell were examples.

Saxon clan-names often ended in *ing*, such as Browning, Dunning, Sherring, Whiting, Harding.

2. Many names came from occupations :

Alabaster, a popular corruption of arbalestier, Kilner, Spencer, a house steward ;

Walker, a fuller who stamped on cloth ;

Webber and Webster, weaver.

3. Many show the original home of the family, but not necessarily that they owned land there.

An old writer (1605) said :

Most of the English surnames run

In ford, in ley, in ham, in tun.

The following terminations also suggest village names: boro, bury, by (Danish), combe, cote, hall, hope, hurst, low, wick, worth, wood.

Examples: Barlow (several counties), Bilton, Goodall (Yorkshire), Linton, Luckham, Norton, Preston, Rothwell, Sidgwick, Twemlow, Wingfield, and Wollacott.

A prominent local feature or building often provided a name, such as Backhouse (bake-house), Barrow, Church, Gill, Grange.

Hill, Holmes (holly wood),

Lynch (hill), Marsh, Oke, Wood,

Yates, a form of Gates, a very common Forest name.

Others were national, such as Brett (Breton), French (common in this county), Pollock (Polack, a Pole), Scott and Welsh.

4. Nicknames form an interesting class.

The lecturer had come across a Rae (roe-buck), who won the

high jump, and a Hern, with a long neck.

Crump was said by one of the authorities to be an uncomplimentary nickname.

Blackett was believed to equal Black-head.

Curtis meant courteous, Gosse must be interpreted as the name of a bird, and Grace might be the French gras, stout.

Armstrong explained itself; Reid and Read were said to be forms of Red; Grey was the name of an unpopular animal.

Vorse (Voss) was the Dutch for a fox; Russell (little red fellow), and Renyard were Norman-French names for the same animal. Rooke, White, Whitehead and Young might come under this head.

5. The signs hung over shops and inns provided many names, such as Angell, Earl, King, Lyon, Shears.

6. Others came from the characters in the Miracle plays and Mystery plays, such as

Angell, Bishop,
Grace (?), Joy, King, Michell,
Pope,
Saint John,
Virgin, Wiseman.

The lecturer classified the names of members of the Society as follows:—

Occupations	...	...	...	...	29
Towns, villages and hamlets	...	...	...	...	87
Countries and provinces	...	...	...	...	4
Local features	...	...	...	...	29
Personal names, ancient	...	...	...	...	18
Personal names, Christian	...	...	...	...	15
Pet-names and diminutives	...	...	...	...	16
Patronymics in S	...	...	...	...	16
Patronymics in son	...	...	...	...	13
Welsh patronymics	...	...	...	...	2
Saxon clan-names	...	...	...	...	6
Nick-names	...	...	...	...	30
Shop-signs and inn-signs	...	...	...	...	2
Irish	...	...	...	...	6
Scottish	...	...	...	...	13
French, Portuguese, etc.	...	...	...	...	7
Doubtful	...	...	...	...	7

The lecturer said that some of his conclusions must needs be reached by guesswork and analogy, and the names of foreigners had often been twisted into English words which happened to resemble them, which made research difficult. He hoped he had not been too personal, but he did not think he would have minded if his ancestor of Plantagenet times had been called a badger or an owl.

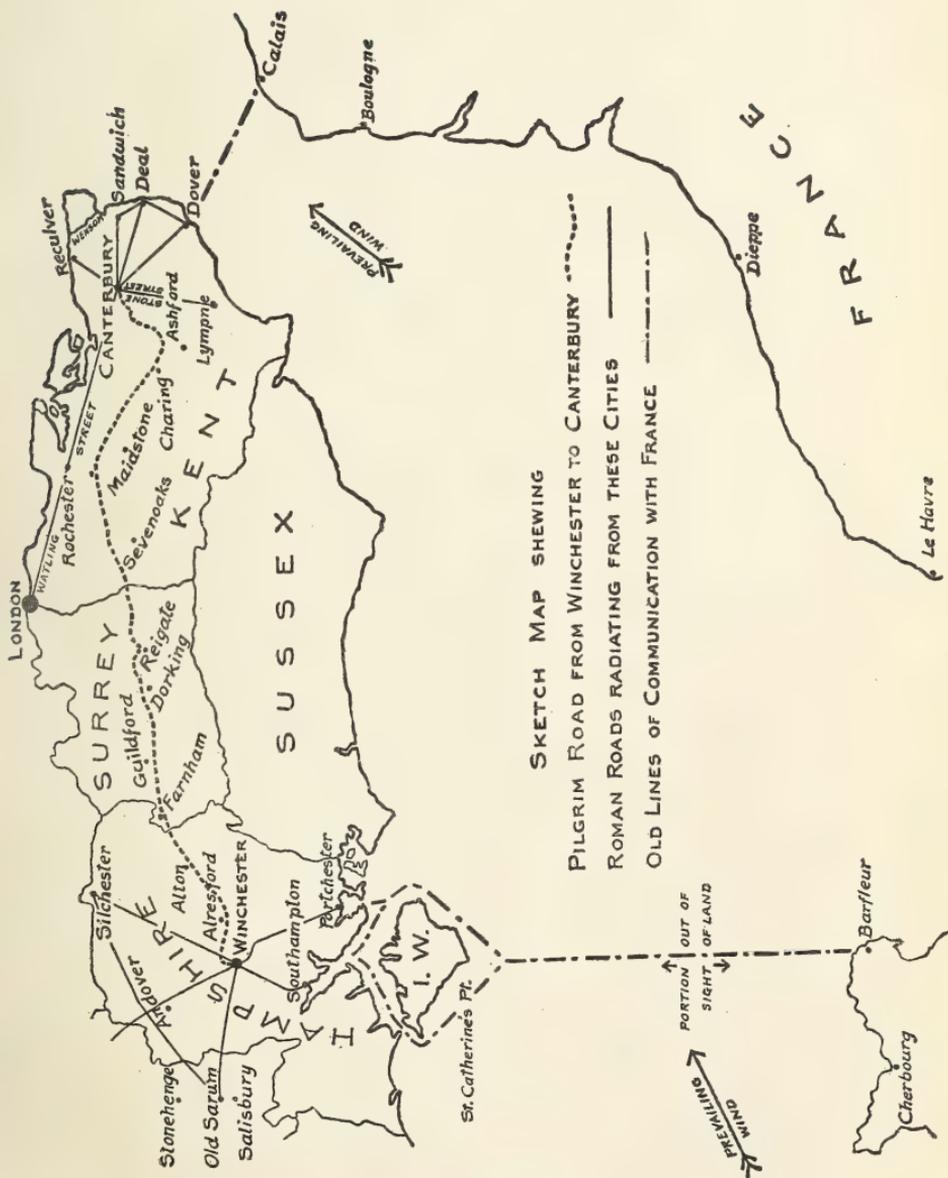
Hampshire and Kent, contrasted and compared.

An Extract from a lecture by

R. Y. BANKS.

(Delivered at the Municipal College, February 22nd, 1919.)

SOME time ago Mr. Fawcett rather pointedly reminded us that Hampshire is THE historical county, but perhaps he only meant that it takes a prominent place among the counties of England, which it does. Kent is also a great historical county and makes as strong a claim as Hampshire to be the home or mother county. Let us first contrast the two counties. Hampshire had its British, Saxon, and Norman kings, while Kent had only its British and Saxon kings. Hampshire was a part of the great kingdom of Wessex, while Kent was a kingdom in itself, although, in the time of Ethelbert, its political influence extended as far north as the Humber. Kent was the first English kingdom to accept Christianity after the lapse into heathendom when the last of the Roman legions left our shores. The influence of St. Augustine does not seem to have extended to Hampshire, and it was not till more than a quarter of a century after his death that Birenius passed through Hampshire intending, as instructed, to go to the heart of England. He, however, found the country in such a condition of darkness that he got no farther than Dorchester on the Thames where he set up his Bishop's stool, some years later transferred to Winchester. Having contrasted the counties let us now take up the more genial task of comparing them, which is our chief object. Hampshire and Kent have been described as being "yoked like twin oxen to the plough of England," and it seems certain that these two counties did more to establish the foundation and build up the fabric of this kingdom of ours than any other two that could be named. The reason for this is not difficult to explain if we remember that England was a western outpost of the then known world. For nearly four centuries it was the outpost of the great Roman Empire and for centuries after an outpost of the continent of Europe. It was natural in these circumstances that its approaches, or bridges as they are frequently called, should be situated on the south and south-east coasts, and it was Hampshire and Kent that provided the most convenient means of access due to certain physical features both counties possessed. In the case of Hampshire the chief of these are: the position of the Isle of Wight forming the sheltering waters of the Solent and Spithead, the numerous harbours of refuge, and the great Southampton Water. For the Hampshire "bridge" a line must be drawn from the peninsula on the French coast, at the end of which stand Barfleur and Cherbourg, and St. Catherine's Point on the Isle of Wight. It has been estimated that not more than 15 or 20 miles would have to be traversed between losing



SKETCH MAP SHEWING

PILGRIM ROAD FROM WINCHESTER TO CANTERBURY

ROMAN ROADS RADIATING FROM THESE CITIES

OLD LINES OF COMMUNICATION WITH FRANCE

PORTION
OUT OF
SIGHT
OF LAND

PREVAILING
WIND

PREVAILING
WIND

BRITISH
MUSEUM
25 FEB 30
NATURAL
HISTORY.

sight of the French coast and picking up the high land of St. Catherine's. St. Catherine's would be the landmark but not the objective. Navigation in the early days was more subject to the influences of wind and tide than it is to-day. To reach the mainland they would take the line of least resistance and be carried east or west as the case might be, but, as the prevailing wind would be from the S.W., in the majority of cases they would be carried towards the eastern end of the island where, after rounding Benridge Point, they would find sheltering harbours on the island itself, viz., Brading and the Medina, while on the mainland they would have the land-locked harbours of Chichester, Langston, and Portsmouth, and beyond, the great inlet which covers the sunken valley of the Itchen, Southampton Water. This, then, was the bridge used by many of the early invaders of our land including the second Roman invasion, said to have taken place in Southampton Water about 43 A.D. Kent presents us with a different set of physical features, the peninsula being on the English side. This carries us within 22 miles of the French coast, thus forming another bridge having at least as great importance as the Hampshire one. The same conditions prevail here as in the former case, the formidable white walls acting as landmark, but offering a difficult landing, the same prevailing wind and the same search for some sheltering harbour and easy approach. Those endeavouring to use the Kent "bridge" might be carried to Lympne, but in most cases they found Pegwell Bay and Sandwich the most convenient when, by running through the Wensome, which then made Thanet a real island, they would reach the mouth of the Thames and so on to London.

These two bridges have never ceased to be active down to the present day, for no one will ever forget the Dover Patrol which did such brilliant service during the late war, or the silent service from Southampton with its ceaseless train of men and munitions, its sea train-ferry and its faithful hospital ships on their errand of mercy. Thus did the two counties of Hampshire and Kent fulfil their destiny favoured by their unique position of being the two nearest points to the Continent of Europe.

The Roman invasion of Hampshire has already been mentioned. We must now refer to the invasion of Kent by the same powerful nation. This took place nearly 100 years earlier, but Kentish antiquarians are not quite so sure as those of Hampshire about the place of landing. Taking all the opinions expressed, one is inclined to favour that which assigns the landing to the west of Dover. The invaders seem to have come from Boulogne and not Calais, so they may have chosen the low-lying land about Romney Marshes, possibly at Lympne, which is the terminus of the ancient Roman Stone Street. They seem to have taken Dover from the land, thence marching to Canterbury after fighting a fierce battle on Barham Downs.

This brings us to the position of the two cities, Canterbury

and Winchester, in relation to the coast. They are both within a day's march of a sea port for an army with baggage, both were fortified and both are centres from which to control the surrounding country. The rivers on which they stand, the Itchen and the Stour, are very much alike in character and afford similar advantages. Then there are the Roman roads radiating to and from each of the cities. Canterbury has six, together with a coastal one running from Sandwich to Dover, while Winchester has five, together with a cross-country one from Silchester to Old Sarum. Those concentrating on Canterbury run from London, Reculvers, Sandwich, Deal, and Dover, the sixth being the Stone Street already mentioned. Most of these are obliterated to-day, but the great Watling Street remains running from Dover to Canterbury, thence to London, and on right across the country to Chester. The Roman roads connect up Winchester with several places of great historic interest, viz., Old Sarum, Marlborough, Ilchester, Chichester, and Southampton. Lastly, we come to the ancient Fosseway which has connected Winchester with Canterbury probably since prehistoric times. Some 120 miles in length, it ran from Hampshire along the North Downs through Surrey and so into Kent. The popularity and fame of the shrine of St. Thomas brought this old road into use again and for nearly 400 years pilgrims from all the south-western parts of England, from Wales and the Continent, even from Asia, passed through Winchester on their way to the shrine which had become the most famous in Europe.

Old Wardour Castle.

BY THE REV. H. SHAEN SOLLY, M.A.

(Read at a General Excursion, August 16, 1919.)

NEAR the road between Salisbury and Shaftesbury, in the parish of Tisbury and the county of Wiltshire, stands the ruin of Old Wardour Castle. Its site was originally occupied as the family seat of the St. Martins, one of whom erected the market cross at Salisbury. In the reign of Edward III. it passed for three generations into the family of the Lovels, and in 1392, in the reign of Richard II., Lord Lovel obtained permission to build the castle whose remains we now see. During the Wars of the Roses the heir got into difficulties through espousing the Lancastrian cause, and the property was granted by Edward IV. to the Touchets. However, the second possessor of this line was beheaded in 1497 as a rebel against Henry VII. The property was confiscated, and after a while purchased by Sir John Arundel of Lanherne, in Cornwall, a descendant of the former Lovels. He presented it to his second son, Sir Thomas Arundel, who was brother-in-law to the fifth wife of Henry VIII., the un-

fortunate Catherine Howard. This Sir Thomas attached himself to the Duke of Somerset, and was tried for conspiring to murder the Duke of Northumberland. The jury, after being shut up for a day and a night, found him guilty, and he was executed. But his innocence was stoutly maintained and is asserted in a Latin inscription on a stone tablet in the castle. The property, after being confiscated, was bought back into the family. Quieter times followed till the outbreak of the Civil War in the reign of Charles I., whose cause Lord Arundel naturally supported. While he was away fighting for the king, the defence of the castle was left to his wife, a lady then 61 years of age. She had only 25 soldiers and about as many servants, male and female, to defend the place, and as the assailants numbered 1,300, the small garrison was kept on the strain night and day, and the maids had to help load the muskets. The siege began April 30, 1643. Terms were offered for capitulation, with safe conduct and respectful treatment for all the women, but they were not accepted until a promise was made to spare the lives of all the men. This was secured on May 8, and then, the walls being partly undermined and the main doors shattered, the castle surrendered. Lady Arundel was sent to Shaftesbury and afterwards to Bath, and lived to survive these troublous times. But Lord Arundel died of wounds received at the battle of Lansdown; and the castle, after being plundered, was garrisoned by the Parliamentarians. It therefore had to stand a second siege when the next Lord Arundel appeared before it with an armed force. It was then that the main damage was done to the building, for the Parliamentarians made a determined resistance, and it was not till March, 1644, when the walls were badly shattered by mines and the garrison was in danger of starvation, that an honourable capitulation was arranged. On the whole, the English fighting forces treated one another well during this war.

The main features of the castle as erected by Lord Lovell in 1392 still survive. The style is the beautiful Early Perpendicular of the period. The ground plan is a square with an added hexagon, and with four massive towers flanking the corners of the quadrangle. At the entrance was a double portcullis. On the eastern side are the great windows of the banqueting hall. Over the main entrance is a niche containing a head of our Saviour with the words "Sub nomine tuo stet genus et domus"—Under Thy protection may our house and race be upheld. Beneath this is a tablet carved with the arms of the family and a long Latin inscription asserting the innocence of the Thomas Arundel above mentioned.

It will thus be seen that we have here a castle, but not a very strong castle such as stood at Corfe. It was capable of being held for a short time against a greatly superior force, but unless relieved could not stand a prolonged attack aided with gunpowder. It belongs to a transition period and has the character both of a

fortress and of a stately dwelling house. We should compare it with Woodford Castle which we visited in 1916, and which was built in 1350, only 42 years earlier than Wardour. Its double character had its value in times of turbulent unrest, but England became sufficiently civilised to have no use for these places which could be held as fortifications, and their disappearance as such in the XVII. century marks an onward step. Happy are we that the change has left us such a beautiful ruin, and the possibility of such an excursion as we are making to-day.

THE TREES ON THE HORSESHOE, BOURNEMOUTH.

(By H. BACKHOUSE and the REV. C. O. S. HATTON, B.A., F.L.S.)

IN addition to the Alphabetical list of Trees growing on the Horseshoe Common given overleaf, the following particulars may be of interest, and will help anyone more easily to identify the species :—

I. PINES WITH LEAVES IN PAIRS.

(1) Buds Resinous.

- E** PINUS MURICATA. Bishop's Pine. Leaves 3-7in. long, deep green. Leaf-sheath persistent, $\frac{1}{2}$ - $\frac{5}{8}$ in. long; cones obliquely egg-shaped, $2\frac{1}{2}$ - $3\frac{1}{2}$ in. long and remaining on tree 25-30 years; boss on scales terminated by stiff hooked spine; native of California.
- C** P. SYLVESTRIS. Scotch Pine. Leaves glaucous 2- $3\frac{1}{2}$ in. long; cones, 1- $1\frac{1}{2}$ in. long, conical. The trunk has a beautiful red tinge, and is smooth, although in old trees it becomes fissured. Native of nearly all Europe, including Britain, also parts of Siberia. In the South of England, however, it died out and was reintroduced about the middle of the 18th century.
- J** P. DENSIFLORA. Japanese Red Pine. Leaves dark green on both surfaces, $2\frac{1}{2}$ -4in. long; leaf-sheath $\frac{1}{4}$ - $\frac{3}{8}$ in. long, persistent; cones, $1\frac{1}{2}$ -2in. long. Introduced from Japan in 1854.
- Y** P. CONTORTA. Beach Pine. Leaves $1\frac{1}{2}$ - $2\frac{1}{4}$ in. long; dark green; persisting three, four or more years; leaf-sheath, 3-16in. long, persistent; cones, conical, up to 2in. long; the scales terminated by a slender spine. The cones remain on the tree four or five years or longer. Native of Western North America.
- N** P. LARICIO. Corsican Pine. Leaves dark green, 4-7in. long; leaf-sheath about $\frac{1}{2}$ in. long. Cones often in pairs or threes, bright brown, 2-3in. long, mostly unarmed; leaf-sheath

about $\frac{1}{2}$ in. long. This pine is a very variable one and ranges over a great extent of country from Spain to Asia Minor and the Caucasus. It reaches its finest development in Corsica, attaining a height of 150ft. It has been largely planted in this country and promises to become a valuable timber tree. If planted with its variety *Austriaca*, it will be found rabbits attack the latter, leaving the type practically untouched.

- D P.** *LARICIO VAR. AUSTRIACA*. The Austrian Pine. Has darker, shorter, and stiffer leaves than the type, and is also much more heavily branched. Typical trees are easily recognised, but forms occur between the two varieties which it is impossible to identify.
- Z P.** *THUNBERGH*. Black Pine. Leaves dark green $2\frac{1}{2}$ - $4\frac{1}{2}$ in. long, stiff; leaf-sheath $\frac{1}{2}$ - $\frac{3}{8}$ in. long, persistent. Cones $1\frac{1}{2}$ -2 in. long, unarmed, frequently in clusters of as many as fifty. Native of Japan. One of the trees trained by the Japanese into many grotesque shapes.

(2) Buds Non-Resinous.

- I P.** *PINASTER*. Maritime Pine. Cluster Pine. Leaves dark green, 4-8 in. long, stiff; leaf-sheath $\frac{3}{4}$ in. long. Cones, usually in whorls, 4-7 in. long, persisting for many years. The pine plantations of Bournemouth are largely composed of this tree, which is one of the very best for planting in light, sandy soils. In the neighbourhood of Bordeaux this tree provides a large turpentine industry. Native of South Europe from France to Greece.
- F P.** *PINEA*. Stone Pine. Leaves bright green, usually in pairs, occasionally in threes, the solitary glaucous needles of seedling and one and two year old plants are frequently scattered on the shoots of much older trees. Scales of winter buds fringed. The cones are 3-5 in. long and 3-4 in. wide, pale glossy brown. The seeds, which are $\frac{3}{4}$ in. long, have been used for food both in this country and abroad since Roman times. The character of the tree is to produce a flat spreading head, hence its name umbrella or parasol pine.

II. PINES WITH LEAVES IN THREES.

Buds Resinous. Leaf-sheath persistent.

- R P.** *PONDEROSA*. Western Yellow Pine. Leaves dark green, 5-10 in. long, three sided; leaf-sheath $\frac{5}{8}$ - $\frac{7}{8}$ in. long; cones 3-6 in. long; scales terminated by a short prickle. Young shoots dark reddish brown, smelling like an orange when cut. Thinly furnished with branches, nevertheless making a handsome tree in this country over 100ft. high. Native of Western North America.

- Q P.** JEFFREYI. Jeffrey's Pine. Closely allied to *P. ponderosa*, but the young shoots are of a blue-white colour, the leaves stiffer and longer, and the cones much larger. Native of California.
- P P.** RIGIDA. Northern Pitch Pine. Leaves dark green, 3-4½ in. long, rigid, twisted; leaf-sheath ⅓-½ in. long. Cones 1-3½ in. long, persisting; scales terminated by a short prickle. Many small branches spring directly from the trunk. Native of Eastern North America.
- L P.** INSIGNIS SYN RADIATA. Monterey Pine. Leaves rich grassy green 2-5 in. long; soft and flexible, very dense on the branchlets; leaf-sheath ¼-½ in. long. Cones, conical, rich bright brown, 3-5 in. long, borne in whorls and remaining closed on the branches for years. A tree of rapid growth in the South of England, but not hardy in the North. Native of Monterey, California.

III. PINES WITH LEAVES IN FIVES.

Leaf-sheaths deciduous.

- Z1 P.** EXCELSA. Himalayan Blue Pine. Leaves blue-green, 5-7 in. long, soft, pendulous; leaf-sheath ⅝-¾ in. long. Cones cylindrical, 6-10 in. long, 1½-1¾ in. wide. It is a handsome, fast-growing tree, but requires a sheltered position, otherwise it has a bedraggled appearance. Native of the Himalayas.

The leaves of Pines are produced in clusters or bundles of from two to five needles or leaves, except that in one species, *Monophylla*, they are solitary. Each bundle of leaves has at its base a "sheath" called the "leaf-sheath"; its form, length, and the period for which it remains are useful data in identifying the species.

The flowers of pines are unisexual and born in clusters, the males at the base, the females at the apex of the year's growth; the female flower develops the second year into a woody fruit called a "cone." The cones of the various species vary greatly in size, shape, and colour, and are one of the most certain means in identifying the different species. Most pines, however, can be identified at a glance from their habit of growth and colour.

Spruces have their leaves arranged singly and spirally on the shoots and are linear or needle-like, mostly four-sided, and more crowded on the upper side than on the lower. Flowers unisexual produced on the same tree at or near the ends of the twigs. Female cones pendulous, scales persisting until they fall.

The only two Spruces growing on the common are *Picea pungens* and *Picea pungens glauca*, marked C and M on the plan, the latter being readily distinguished by its blue-green or glaucous colour. The soil, however, does not seem to suit it, as the four examples are all unhealthy.

Cedars are represented by the following :—

- A** *CEDRUS DEODARA*. The Deodar. Leading shoot arching; branchlets pendulous at the ends, always downy. Leaves 1-1½ in. long, needle-like, of a grey or glaucous green. Cones about 4 in. long, 3 in. wide, broadly egg-shaped, not often produced in this country. This is undoubtedly the tenderest of the Cedars, many being killed in the hard winters at the close of last century. Native of the Himalayas.
- T C.** *LIBANI*. Cedar of Lebanon. Shoots slightly pendulous, habit of tree dense, and developing huge horizontal branches. Leaves $\frac{3}{4}$ -1¼ in. long, needle-like. Cones 3-5 in. long, 2-2½ in. wide, barrel-shaped; produced freely in this country. A tree of large size and one of the most stately. Native of Mount Lebanon and the Taurus Mountains.
- K C.** *ATLANTICA*. Atlas Cedar. A tree of much more open growth and more erect in habit than Libani. Its leaves are stouter and rather shorter and more downy, and the cones are more cylindrical and do not taper so much above the middle. It was introduced about 1844, and, being a quick grower, promises to make a taller tree than either Libani or Deodara. Native of the Atlas Mountains.

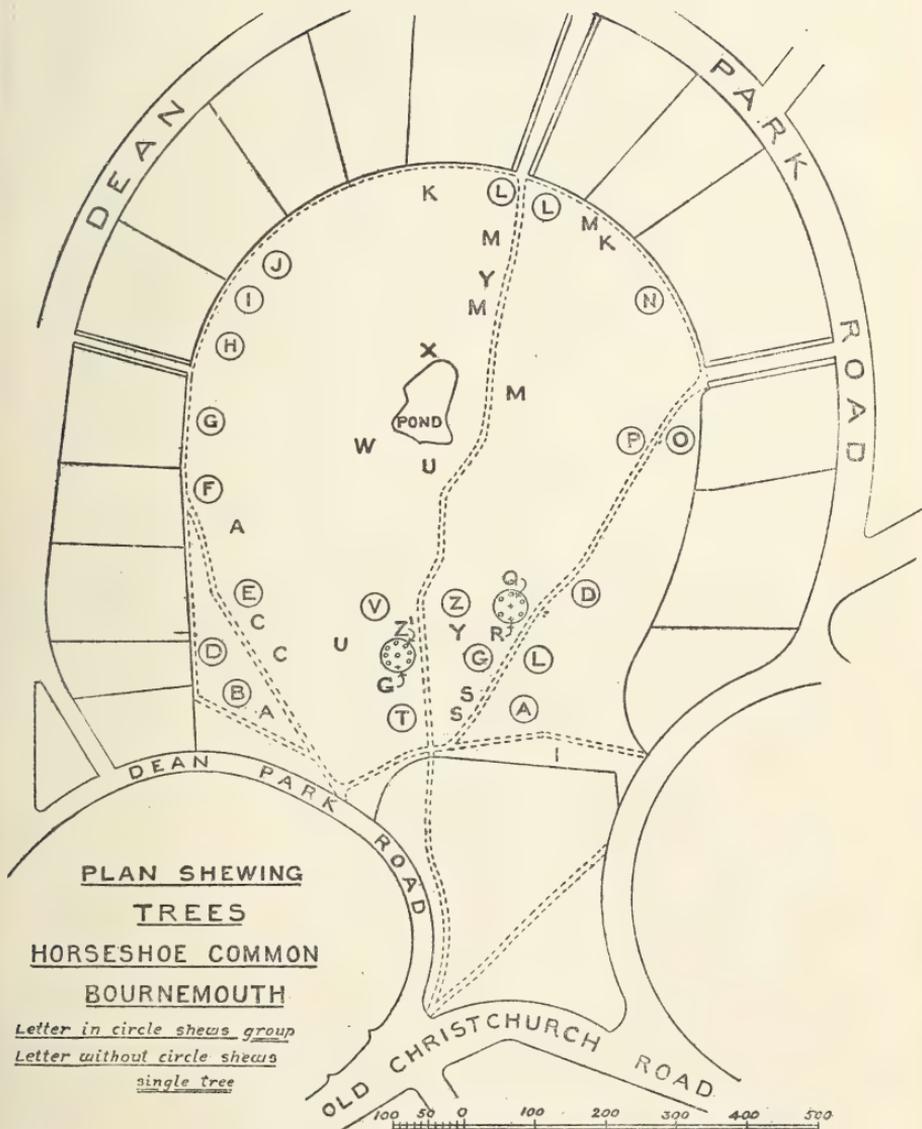
Other trees growing on the common are :—

- X** *TAXODIUM DISTICHUM*. Deciduous Cypress. Leaves spreading in two horizontal rows (except in the leading shoots), $\frac{3}{8}$ -¾ in. long, of a soft, yellowish green. Male and female flowers separate but on the same tree. Cones globular, $\frac{3}{4}$ -1½ in. wide. This is one of the most beautiful and interesting trees that can be grown in wet places, although it thrives in ordinary soil. Of doubtful hardiness in the North of England. Native of the Southern United States.
- V** *SEQUOIA SEMPERVIRENS*. Redwood. Leaves a very dark lustrous green above, arranged in two opposite rows, $\frac{1}{4}$ -¾ in. long, resembling those of the yew, but whiter beneath. On leading shoots the leaves are arranged all round the branchlet. Bark of a rich brown-red, of a fibrous nature, 6 to 12 inches thick in large trees. The tree sometimes reproduces itself by suckers from the root. A tree of the largest size much used in house building in Californian cities. Native of California and Oregon. It is nearly allied to the Wellingtonia.
- B** A clump of Eucalyptus Trees growing on the west side contains the following varieties :—*Acervula*, *Muelleri*, *Cordata*, and *Urnigera*.
- H** THE CHUSAN PALM—*Trachycarpus Fortunei*—also growing in a clump on the west side, is probably the only species that can be termed really hardy.

- O Three LONDON PLANES—*Platanus acerifolia*—are growing near together on the east side.
- S TWO COPPER BEECHES—*Fagus sylvatica* var *cuprea*—are immediately opposite the entrance from the Old Christchurch Road.
- U TWO PYRUS ARIA VAR. INTERMEDIA—Whitebeam—are growing on the west side of the main path. *Intermedia* differs from the type in having the leaves evenly lobed like the common oak instead of oval.

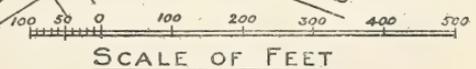
It has not been thought necessary to mark the birches and oaks growing on the Common, nor the large number of seedling Scotch and Maritime pines. Practically all the above were planted in 1898. It is a pity the pines are not thinned out a little and given some attention. In one case a Scotch Pine is growing in the midst of a clump of *Pinus excelsa* and some have been badly attacked by a beetle.

A	<i>Cedrus deodara.</i>	Deodar.
B	<i>Eucalyptus.</i>	Eucalyptus.
C	<i>Picea pungens.</i>	
D	<i>Pinus Laricio</i> var <i>Austriaca.</i>	Austrian Pine.
E	<i>Pinus muricata.</i>	Bishop's Pine.
F	<i>Pinus pinea.</i>	Stone Pine
G	<i>Pinus sylvestris.</i>	Scotch Pine.
H	<i>Trachycarpus Fortunei.</i>	Chusan Palm
I	<i>Pinus pinaster.</i>	Maritime Pine.
J	<i>Pinus densiflora.</i>	Japanese Red Pine
K	<i>Cedrus Atlantica.</i>	Atlas Cedar
L	<i>Pinus insignis</i> syn <i>radiata.</i>	Monterey Pine.
M	<i>Picea pungens glauca.</i>	Blue Spruce.
N	<i>Pinus Laricio.</i>	Corsican Pine.
O	<i>Platanus acerifolia.</i>	London Plane.
P	<i>Pinus rigida.</i>	Northern Pitch Pine.
Q	<i>Pinus Jeffreyi.</i>	Jeffreys Pine.
R	<i>Pinus ponderosa.</i>	Western Yellow Pine.
S	<i>Fagus sylvatica</i> var <i>cuprea</i>	Copper Beech.
T	<i>Cedrus Libani.</i>	Cedar of Lebanon.
U	<i>Pyrus Aria</i> var <i>intermedia.</i>	Whitebeam.
V	<i>Sequoia sempervirens.</i>	Redwood.
W	<i>Cedrus Atlantica glauca.</i>	Glaucous Atlas Cedar.
X	<i>Taxodium distichum.</i>	Deciduous Cypress.
Y	<i>Pinus contorta.</i>	Beech Pine.
Z	<i>Pinus Thunbergii.</i>	Black Pine.
Z1	<i>Pinus excelsa.</i>	Himalayan Blue Pine.



PLAN SHEWING
TREES
HORSESHOE COMMON
BOURNEMOUTH

Letter in circle shews group
Letter without circle shews
single tree



SCALE OF FEET

INDEX.

	PAGE		PAGE
Alchemy	14	Ichthyosaurus	16
<i>Anopheles</i>	56	Ilchester	62
Assyria	39	Itchen	61
Atmospheric Pollution	19	Jeffrey's Pine	66
Bassendene	9	Jewellery	38
Batesian Mimicry	51	Jews	13
Beetles	50	Ka	39
British Association	15	Kent	60
Cedars	67	Khafra	40
Chipies	41	Khufu	40
Cocktails	50	Lanherne	62
Conifers	15	<i>Lobelia urens</i>	47
Cranborne Chase	45	Lympne	61
<i>Cynoglossum officinale</i>	47	Maps	52
Cypress	67	McDeugall Collection	16
Deodar	67	Measurement of rain	19
Devil's Coach-horse	50	Medical Society	10
Diamond drills	38	Milton Abbas	44
Diorite	43	Mosquitoes	48
<i>Donacia</i>	51	Müllerian mimicry	51
Dust	20	Municipal College	15
Dyes	13	<i>Mutilla</i>	51
<i>Dytiscus</i>	50	Navigation	61
Eucalyptus	67	Nile	39
Extraordinary General Meeting	15	Nocturnal Beetles	50
<i>Fagus sylvatica</i>	68	Observatory	10
Formosa	11	Old Sarum	45
<i>Fritillaria Meleagris</i>	47	Old Wardour Castle	45
<i>Gcodephaga</i>	51	Orchids	16
Geography	20	Ordnance Maps	46
Glow-worms	51	Patronymics	59
Green Dragon Inn	45	Phœnicians	39
Great Durnford	13	Pines	64
Hampshire	60	Public Library	8
Heron Court	44	Quartzite	43
Hieroglyphics	39	Redwood	67

	PAGE		PAGE
Roads, ancient and modern ...	19	<i>Urnigera</i>	67
Romsey Abbey	41	Vases	41
St. Catherine	44	Vatican	40
St. Elfleda	44	<i>Verbascum Blattaria</i> ...	47
St. James' Church	44	<i>Viola palustris</i>	47
Salisbury	44	War Saving Certificates ...	8
Scribe	42	Watling Street	62
Shaftesbury	45	Wessex	60
<i>Spartina Townsendi</i>	47	Whitebeam	68
Surnames	57	Wild flower exhibition ...	15
<i>Taxodium distichum</i>	67	Woodford Castle	64
Thanet	61	Wych Channel	48
Thebes	42 43	Yellow Pine	65
Theory of beetle colouration ...	50	Zeus	41
Tisbury	62	<i>Zostera</i>	46
Units	13		

