

unworthy of a chapter in the final history. They will show the need for a better understanding of their potentialities, not only in war-time but also in peace, and for a greater consideration for their permanent upkeep at real efficiency level. For the present, it may be stated that in official circles the services of the Science Library are much appreciated, and they are regarded as indispensable for the conduct of the War.

American Library in Great Britain

THE U.S. Office of War Information announces the formal opening of the American Library, which has been operating for several months as a special reference library at the American Embassy, 1 Grosvenor Square. The Library is designed for American, British and other United Nations officials, agencies, for research institutions, associations, business, and for the Press. As Mr. Winant said: "This operation represents trust in the free mind and a desire that our Allies be informed on our way of thinking in the United States". The director of the Library, Dr. Richard H. Heindel, said: "By force of war circumstances this might be called a 'utility' or 'austerity' library. We have not consumed vital shipping space. Many of the American books and periodicals are not easily available elsewhere. The experience gained in the library will help us when the time comes to rebuild the libraries and intellectual life of the continent". The American Library Association, the Library of Congress, learned societies and many other American associations, and their opposite numbers in Great Britain, have been consulted constantly in building up this modest but potentially important centre and cultural focus.

The Linnean Society of London

At the anniversary meeting of the Linnean Society held on May 24, Mr. A. D. Cotton, keeper of the Herbarium in the Royal Botanic Gardens, Kew, was elected president in succession to Dr. E. S. Russell. Dr. Russell addressed the meeting on "The Stereotypy of Instinctive Behaviour". In a review of the activities of the Society, the retiring President directed attention to the revision of the by-laws, just completed; to concession in the amount to be paid by fellows of sixty-five and more who wish to compound; to the fruitful work of the Crustacea Committee and the Marine Algæ Committee; to grants-in-aid towards the cost of publication; to work done by a sub-committee appointed to prepare a plan for rearranging the Library; to the great need for more shelving for the books; to the gratifying progress made towards completing a photographic record of the Linnean collections and manuscripts; and to the Society's excellent relations with other societies and scientific bodies.

The first fruit of the work of the Sectional Committees, being a key to the British harvestmen or Opiliones by Mr. T. H. Savory, is ready for the printer, as the first of a series of Linnean Society Fauna Synopses. The Marine Algæ Committee's attention has been chiefly directed to collecting data on the ecology of the Fucaceae.

The Society has created within itself a new class of members, namely associates, who must be less than thirty years of age and for a yearly subscription of one pound will be admitted to meetings, to the use of the Library and will receive the *Proceedings*. It is thought that there may be many biologists, such

as advanced students, whose means do not permit them to apply for fellowship, but to whom membership of the Linnean Society offers advantages, contacts that can ripen into friendships and inspiration.

Message from Chinese Men of Science

PROF. TSENG CHAO-LUN, head of the Department of Chemistry of the National Southwest Associated University, Kunming, China, has sent the following open letter to British scientific men:

"While the introduction of modern science into China dates back to eighty years ago, the real beginnings of scientific research in China came after 1919. On May 4 of that year, students in Peiping (then still called Peking) demonstrated against Japanese aggression, and from that incident was evolved the so-called 'May 4th Movement', so important in the cultural as well as the political history of modern China. That movement, which quickly spread all over China, not only rallied the country to the standards of democracy but also promoted the natural sciences as factors in the modernization of China. With this impetus, scientific education and scientific research developed at a rate never dreamed of before. The progress made between 1929 and 1937 was particularly rapid, and constant encouragement was received from scientific workers in the United States and in Europe. Since the outbreak of the Sino-Japanese War in 1937, scientific institutions and scientific men in China have suffered tremendously through the deliberate efforts of the Japanese to destroy Chinese culture. But here in the hinterland of Free China, Chinese men of science have been labouring hard for the last five years in the interest of China and of science.

"Chinese scientific workers owe much to Great Britain for their training. For both democratic ideals and scientific accomplishment, we have always looked to Great Britain for guidance. Now, under the banner of the United Nations, Britain and China are fighting shoulder to shoulder to save democracy for the world; a new era of co-operation between the British and Chinese peoples has begun. Early this year we had the honour of welcoming a cultural mission from the British Council. One of its members is Dr. Joseph Needham, who is now doing most valuable work in our country, and who brought with him a large number of scientific books so much needed by us. Recently, Chinese science students in Britain, with the help of the British Ministry of Information, the British Broadcasting Corporation, the British Council, and other organizations, have started a scheme for sending us science news, which includes a weekly broadcast summary of the principal contents of each week's issue of *NATURE*; recent valuable scientific publications and microfilm copies are being sent, and scientific books are being collected with the view of establishing an adequate Science Library in China. Many British men of science are helping in these efforts. We shall never forget such things, and we hope they will develop into a bigger scheme of co-operation between the scientific men of Great Britain and China."

Chance, Freewill and Necessity

THE twenty-seventh Guthrie Lecture of the Physical Society was delivered on May 18 by Prof. E. T. Whittaker, who took as his subject "Chance, Freewill, and Necessity in the Scientific Conception of the Universe". The lecture was devoted to a study

of the association which has been held to exist between the philosophical theory of determinism on one hand, and the scientific view of the world on the other. When a coin is tossed, we say that whether it comes down heads or tails is a matter of 'chance'. This does not mean that there is any real indeterminism in the occurrence; but merely that we cannot make a confident prediction, because we do not know the precise velocities of translation and rotation which were communicated to the coin by the thumb of the operator, or the exact mass and figure of the coin, or the density and resistance of the air. If these, and the other relevant data which are unknown to us, are called the 'hidden parameters', then an imaginary person to whom the values of the hidden parameters were correctly known would be able, by aid of the laws of dynamics, to calculate mathematically all the circumstances of the flight and to determine whether the coin would fall heads or tails.

Phenomena of this kind, which are in reality deterministic, although we cannot foretell their outcome because of our lack of information regarding hidden parameters, may be called 'crypto-deterministic'. Wherever the notion of 'chance' occurs in classical physics, it has the crypto-deterministic sense. It is otherwise in the newer atomic physics. The alpha-particles emitted by a small quantity of radium salt may be observed by means of the scintillations they produce on a fluorescent screen, and these scintillations appear at irregular intervals—it is impossible to predict the instant when any particular radium atom will explode. By a quantum-mechanical examination, Prof. Whittaker showed that this phenomenon cannot be crypto-deterministic, but involves a true indeterminism. Thus the world is not a closed deterministic system but experiences a continual succession of intrusions or fresh creations. The relation of this to certain ideas in Greek philosophy was discussed, and its bearing on the formulation of the law of causality and on the problem of freewill.

English Scientific Film Association

AN English Scientific Film Association was formed on May 15, at a meeting representative of science and films, convened by the Scientific Films Committee of the Association of Scientific Workers. Mr. Arthur Elton was in the chair. He stated that the new association would be independent and self-governing. An Interim Planning Committee was appointed to frame the constitution and to propose conditions of membership. Contact has already been made with the equivalent Scottish association. The acting secretary is Mr. M. Michaelis, 51 Fitzjohn's Avenue, London, N.W.3. The main aims of the new Association are: to promote the national and international use of the scientific film in order to achieve the widest possible understanding and appreciation of scientific methods and outlook, especially in relation to social progress; and to collect, collate and distribute information on the scientific film, including possibly the formation of a reference library of books and the publication of a journal and pamphlets. The Association will publish comprehensive lists of scientific films graded according to scientific merit. It hopes to establish relations with Government departments, public bodies and other organizations which are in a position to make, use or circulate scientific films. A representative panel of scientific workers, to advise producers of

films of all types on scientific matters in connexion with their films and to maintain close contact with the film industry, will be compiled.

The Work of Copernicus

PROF HERBERT DINGLE writes: "Might I correct a small error, for which I am partly responsible, in the report of my address on Copernicus printed in NATURE of May 22? Luther did not 'predict' that Copernicus would overturn astronomy. His words were: 'Der Narr will die ganze Kunst Astronomiae umkehren'; that is, 'The fool wishes to overturn the whole science of astronomy'. There is no reason to suppose that Luther thought he would succeed.

Comet Whipple-Fedtko

THIS comet is fading rapidly and on April 13 its magnitude was 8.5. An ephemeris is given for June.

June 1 ^{od.}	R.A.	Dec.	ρ	τ
5	13h. 12.4m.	+21.1°	1.456	2.097
5	13 15.7	19.6	.523	.137
9	13 19.0	18.2	.593	.177
13	13 22.4	16.7	.664	.218
17	13 26.0	15.4	.738	.258
21	13 29.6	14.1	.813	.299
25	13 33.4	12.8	.891	.340
29	13 37.3	11.5	.969	.381

The Night Sky in June

NEW moon occurs on June 2d. 22h. 33m. U.T. and full moon on June 18d. 05h. 14m. The following conjunctions with the moon will take place: June 1d. 19h., Mercury 1° N.; June 6d. 14h., Jupiter 2° N.; June 7d. 00h., Venus 4° N.; June 26d. 05m., Mars 3° N.; June 30d. 19h., Saturn 3° N.; June 30d. 21h., Mercury 3° N. Occultations are very few during the month and only one is worth noticing: June 16d. 1h. 26.0m., γ Lib. (D). Mercury is stationary on June 4 and attains its greatest elongation west on June 18, and on this date rises at 3h. Venus attains its greatest elongation east on June 28 and sets then at 22h. 40m. Mars is moving northward into the constellation of Pisces and rises at 1h. about the middle of the month but cannot be observed very conveniently. Jupiter sets at 22h. 20m. in the middle of the month and can be seen for only a comparatively short period after sunset. Saturn is in superior conjunction with the sun on June 7 and cannot be observed. Summer Solstice is on June 22d. 07h.

Announcements

THE King has been pleased to command that the Institute of Chemistry shall henceforth be known as "The Royal Institute of Chemistry of Great Britain and Ireland".

THE thirteenth Thomas Young Oration will be delivered before the Physical Society by Prof. F. C. Bartlett on June 4 at 5 p.m., in the lecture theatre of the Science Museum, South Kensington. Prof. Bartlett will speak on "Some Current Problems in Visual Functions and Visual Perception".

THE British Coal Utilization Research Association is arranging an open conference on "The Ultra-fine Structure of Coals and Cokes, with Special Reference to the Application of Modern Physical Methods", to be held at the Royal Institution during June 24–25. Forms of applications to attend, which are issued free of charge, can be obtained from the Conference Secretary, B.C.U.R.A., Rickett Street, West Brompton, London, S.W.6, to whom they should be returned by June 4.