

under a piston in a vertical open-top cylinder by the condensation of steam, and it may be Newcomen read a review of a book by Papin contained in the *Philosophical Transactions* of March 1697. Mr. Jenkins placed no credence on the story that Newcomen had been in correspondence with Hooke, as stated by Robison in the third edition of the "Encyclopaedia Britannica", and this story must be omitted from the history of the steam engine, at any rate until documentary evidence is forthcoming.

Domestic Lighting

THE summer school of electrical housecraft recently paid a visit to the Lighting Service Bureau of the Electric Lamp Manufacturers' Association. Mr. W. J. Jones laid stress on the need for adequate light in the home for reading and for carrying out domestic tasks. Practical demonstrations were given to prove his statements. He showed how good lighting helps the eye to see quickly, and hence under favourable conditions a task can be performed with greater accuracy and in less time. When a gramophone turntable with a disk of white cardboard marked by two intersecting lines is made to revolve, its speed seems to increase as the amount of light thrown on the disk is reduced. Actually the speed is kept constant, but so effective is the maximum illumination in reducing the apparent speed of the disk that it is difficult to believe that the speed keeps constant. When the disk is brightly lit, the eye has little difficulty in following the rotation of the lines, whereas when badly lit a confused whirl only is seen. The absorption power of decorations was demonstrated and the importance of using extra light to counteract the effects of a dark colour scheme or of decorations was insisted on. A talking film entitled the "Science of Seeing" has been prepared by the Bureau for loan to schools, etc. During his lecture, Mr. Jones asked his audience to choose the amount of light for the most comfortable seeing conditions in the lecture theatre. This was done by raising and lowering the lighting. Individual members chose illuminations lying between 20 and 75 foot-candles.

Factors affecting Freedom of the Press

FOLLOWING on the broadsheet on the state of the press in Great Britain, issued by Political and Economic Planning in 1935, the Press group of P.E.P. has now issued a further broadcast on the freedom of the press. Besides the various legal factors, such as the law of libel, which restrict publication in the press, there are other equally potent influences which may act in restraint of publication, such as advertizing influence, the private policy of a proprietor, or the pressure of public or semi-public bodies may be exerted in various ways which make it more and more difficult to voice emphatically the grievance of an individual or group against authority and monopoly. While absolute freedom of the press is neither possible nor desirable, there are strong arguments for keeping restrictions and external pressure of every kind to a minimum. Moreover, the selection or rejection of news for a newspaper is still mainly determined not by external influences,

however powerful, but by the character and outlook of journalists. Where they are content to follow the line of least resistance, giving prominence to trivialities, and evading or ignoring important subjects and points of view that are unpopular or likely to arouse powerful opposition, the control of the press will in fact be determined by the barriers erected against free discussion, with fatal results. Bad journalism begins by driving out good and may end by causing the imposition of restrictions so severe that good, critical, informed and independent journalism is impossible. On the other hand, independent, courageous journalism creates and commands the admiration of independent and courageous people who are powerful enough to support it and defend it. The fate of the press is bound up with the fate of democracy, and in any type of State the press will have to fight harder to justify its existence against competition and encroachments of many kinds.

Archæology in Indo-China

No little success has been achieved by the first two expeditions of archæological exploration conducted by the Greater Indian Research Committee. This Committee was founded in 1934 under the chairmanship of Sir Francis Younghusband with the object of throwing light by field exploration on Indian cultural and colonial expansion throughout south-eastern Asia. An account of the results obtained up to the present is given by Dr. H. G. Quaritch Wales, the field director, in *Discovery* of November. The first expedition began work at Takuapa on the west coast of peninsular Siam. This has been identified with the Takola Mart of Ptolemy. Here the archæological evidence has demonstrated the existence of a considerable settlement of Siva worshippers of South Indian affinities, which flourished from the fourth to the eighth or ninth centuries of our era, and was frequented by Chinese and Islamic traders. Further, a line of communication with the west coast has been traced to the Bay of Bandon, where excavations have been carried out on the site of the ancient city of Chaiya, apparently the capital of a great Indianized empire. Even more important results were obtained by an expedition to a site in eastern central Siam, where in the remote Pasak valley in the vestiges of a city were discovered relics of the vanished culture of the great Fu-nan Empire, of which this had been an outlying emporium on the trade route to the Menam valley. This culture was overwhelmed and completely destroyed by the rise of the Kmers in the sixth century A.D. Here the most important discovery was that of an Indian brick temple, which is the earliest known example of Indian colonial architecture. Previous to this discovery, all early Indian colonial temples were thought to have been built of wood. Several examples of sculpture were also found of pure Gupta style.

The Earliest Printed Book on the Magnet

THE annotated catalogues of antiquarian book-sellers who deal especially in old scientific books always make interesting and instructive reading to the student of the history of science. Sometimes

these catalogues form the medium for the first announcement of bibliographical discoveries of importance. A case in point is afforded by a catalogue (No. 73) recently issued by Messrs. Davis and Orioli, of 37 Museum Street, London, W.C.1. In this list, there is offered for sale a book that the vendors claim to be the hitherto undescribed first printed text of Petrus Peregrinus's treatise "De Magnete". The book in question, a small quarto of six leaves, is entitled "De Virtute Magnetis", and its title page bears the name of Raymundus Lullus as author; but no date or place of printing is indicated. The text is almost identical with that of the edition of Peregrinus's treatise published at Augsburg in 1558, hitherto regarded by bibliographers as the first printed edition. The original "Epistola De Magnete" was written in the thirteenth century, probably in 1269, and several early MSS. copies exist. In a long and interesting note, Messrs. Davis and Orioli give reasons for believing the book they describe to have been printed at Rome by E. M. Silber, not later than the year 1520. They state that, in the past, Peregrinus's treatise has been ascribed both to Raymond Lull and to Roger Bacon, and it is suggested that these authors' names may have been used in a general way during the Renaissance as possible authors of any scientific works. While the 1558 edition is a book of extreme rarity, Messrs. Davis and Orioli have so far only been able to trace one other copy of "De Virtute Magnetis", that in the Bibliothèque Nationale, Paris.

South African Marine Fishes

IN a recent descriptive account of "The South African Marine Fishes of Commercial and Angling Importance" by J. M. Marchand (Dept. of Commerce and Industries: Fishery Bulletin No. 2), an attempt is made to provide a handbook for the convenience and use of persons interested in South African sea fishes from the commercial point of view, for sportsmen, and for teachers of biology in South African schools. It is pointed out in the introduction to this work that it is "not intended for the pure scientist, and will be of small if any value to such individuals, due to the limited number of species dealt with, the total lack of classification keys and the brevity of the descriptions". Owing to the brevity of the descriptions, much reliance will have to be placed on the photographic illustrations in making identifications of fishes not already known. This is most unfortunate, for the great majority are so lacking in detail as to be almost useless for this or any other purpose. Some of them, for example, the photograph of *Raia clavata* on p. 52 and of *Arnoglossus pectoralis* on p. 67, are little more than dark blotches on the paper. When, for any reason, detailed drawings cannot be used, simple but accurate outline sketches are infinitely preferable to poorly reproduced photographs for the illustration of a handbook of this kind.

Indian Industrial Publications

THE Indian Industrial Research Bureau has issued a bibliography of industrial publications published

in India since 1921 (Bulletins of Indian Industrial Research. No. 1: Bibliography of Industrial Publications published in India from 1921. Pp. iii+257. Delhi: Manager of Publications, 1936. 4.6 rupees; 7s. 3d.). The first part consists of a list of papers arranged chronologically according to publications, which enables readers readily to ascertain the papers published by each local government, government department, society, etc. Publications available in the Library of the Industrial Research Bureau are indicated. The second part is a classified subject bibliography arranged according to the Universal Decimal Classification. The third section of the bibliography comprises a combined alphabetical author and subject index.

Natural History Magazine

THE October number of this British Museum publication contains an interesting account of the remounting and preservation of the famous Cranbourne meteorite, the conclusion of a long description of the Museum's East African Expedition, and a paper on vermin, based upon Steele Elliot's Bedfordshire records. We record with regret the concluding paragraph of the number: "The Trustees of the British Museum have decided to cease the publication of the *Natural History Magazine* after the issue of the present number, which completes the fifth volume". The experiment has not been long-lived, and as members of the reading public we should attribute its failure to the price charged for what is essentially Museum advertisement and propaganda, and to the tendency of contributors to forget that lightness of hand as well as solid fact is a necessary ingredient in attractive writing.

Index to the Geographical Review

THE *Geographical Review* (the quarterly journal of the American Geographical Society) for the ten-year period from 1926 to 1935 contains 7,000 pages of articles, record items, and book reviews, including more than fifty articles on the geographical results of important expeditions, most of them written by the expedition leaders themselves. To make this great mass of geographical material available in organized form, the Society has now prepared an analytical index of 373 pages covering this ten-year period. The price of the index is: unbound, 4.50 dollars; bound, 5.25 dollars. The index to vols. 1-15, 1916-25, of which there are still a limited number of copies available, is offered along with the index to vols. 16-25, at a special price of 8.00 dollars unbound, or 9.50 dollars bound, for the two indexes. These may be obtained from the American Geographical Society, Broadway at 156th Street, New York, N.Y.

Medical Peace Association

A MEETING of medical practitioners and other scientific workers to consider the subject of aerial warfare and means of defence against it will be held in the Hastings Hall, British Medical House, on Wednesday, November 25, at 8.30 p.m. The chair will be taken by Dr. E. P. Poulton, and speakers