

crossing the River Stour above Manningtree. Here the land presents none of those emphatic forms which in rugged scenery tend to concentrate attention on the lower half of the confronting hemisphere, so the eye ranges freely over the sky, and the cloud is as important as the field in the composition of the picture. Originals of Constable's paintings are readily accessible in the National Gallery and the Victoria and Albert Museum, and many are familiar as engravings, so that Mr. Bonacina's judgments can easily be tested. We welcome his conclusion that Constable's generalization of particular types of cloud in a manner not possible for photography is of service to the meteorologist. The analysis of certain pictures in which transitory forms are so perfectly depicted as to introduce a cinematic effect is a notable contribution to art criticism. It is indeed entirely appropriate that the student of natural science should thus contribute to the understanding of landscape painting, for the critical faculty is as a rule more highly developed in the man of science than in the artist—who does more than he knows.

### A Guide to Fishes

REGULAR visitors to the Fish Gallery at the British Museum (Natural History) during recent years have watched with interest the rearrangement under the supervision of Mr. J. R. Norman. The large number of new casts and models, due to the skill of Mr. S. Stammwitz, have resulted in an exhibition illustrative of fish life that would be difficult to improve upon with present-day resources. The first part of the new guide to the Gallery contains a general account of classification, the scheme adopted being that proposed by Dr. C. Tate Regan (British Museum (Natural History)). Illustrated Guide to the Fish Gallery. By J. R. Norman. Pp. x+175+6 plates. London: Trustees of the British Museum, 1937. 1s. 6d.). A wealth of interesting notes on habits and on fisheries turns what might otherwise be a rather dull catalogue into fascinating matter for general reading. The second and rather larger portion of the book is taken up with descriptions of the special exhibits, of which there are eighteen. These are evidently such as will cater for the needs of most visitors. They include such items as the crucifix fish, of interest to the credulous rather than to the serious student, who will find more to his taste in the section (and exhibit) devoted to breeding habits and development of coloration. This is an excellent guide book, but it is more than that; it is an elementary text-book of fish life. It is well written and well illustrated, in which connexion a word of praise must be spared for Lieut.-Col. W. P. C. Tenison's accurate and charmingly executed drawings.

### The School Certificate Examination

THE School Certificate Examination, its merits and demerits and how it might be improved: these are matters which so closely concern so many people—parents and employers as well as school and university teachers and administrators—that the National Union of Teachers has performed an important public service in printing and circulating Sir Philip Hartog's

address at its Portsmouth Conference. Sir Philip, than whom a more competent critic could scarcely be found, exposes manifold weaknesses of the examination as at present administered. He discusses such questions as: What does passing the examination imply in terms of what each successful candidate will be able to do? What do the examiners suppose they are trying to test? What of the validity and consistency of the test? More than a quarter of the candidates fail: does this not point to serious maladjustment between education and examination? He makes five definite proposals for reform: (i) classify tests in such a way as to show employers in what cases they can rely on a pass as showing the possession of definite utilizable skills; (ii) give to each candidate a certificate characterizing his or her performance in each subject; (iii) abolish the group system in so far as it hampers the school in determining the examination programme to suit each child after investigation of individual aptitudes; (iv) supplement the school certificate by a cumulative school record; (v) protect certain subjects, such as English literature, history and general science, from examination pressure, providing at the same time for their compulsory inclusion in the curriculum and school time-tables.

### Gardens for Busy Enthusiasts

THERE must be a considerable body of garden enthusiasts who have only a limited time in which to maintain horticultural beauty around their homes. Professional cares of the specialist often diminish the hours of leisure which might be devoted to gardening, or other causes may intervene. Mr. R. S. Lynch's paper on "Gardens of Easy Maintenance" (*J. Roy. Hort. Soc.*, 62, 9, 377-393, Sept. 1937) is a most useful help for such enthusiasts. Lawns are particularly insistent in their demands for attention, and for those who regard them as essential to garden beauty, Mr. Lynch has many suggestions for their more facile control. A pleasing arrangement of alpine upon a paved bank requires little attention, though it ministers well to formal artistry. The horticultural qualities of many perennial plants which demand neither pruning, frequent division, nor staking, are discussed in detail in the paper, whilst the claims of an evergreen garden are also considered. A large amount of practical information, which should help to meet a pressing modern need, is here portrayed.

### Timber Seasoning in Australia

TIMBER seasoning has made very considerable progress in many countries of the world since the Great War. It was during that War that a great deal of research work in seasoning by means of kiln-drying was undertaken, more especially perhaps in Great Britain and in India. Owing to the enormous consumption of timber upon the War fronts all seasoned material was absorbed in a comparatively short space of time; and since then it is not an overstatement to say that good seasoned material of high quality is very difficult to obtain for many species of timbers. In this new departure of utilizing the kiln for drying



timbers, Australia has not been behind other parts of the Empire. In 1933 the Division of Forest Products of the Council for Scientific and Industrial Research published as a pamphlet Part 1 of "A Guide to the Seasoning of Australian Timbers", in which it was pointed out that timbers of different species frequently differ so widely in physical properties that it is impossible to prescribe a general set of conditions for air-drying or kiln-drying for all timbers, or even for all sizes of one timber. Part 2 of this Guide has been recently issued (Div. of For. Products, Pamphlet No. 68, Technical Paper, No. 22. Melbourne, 1937) written by W. L. Greenhill and A. J. Thomas. The work of determining suitable kiln schedules for various species and sizes of timber is being carried out in laboratory kilns, supplemented by information operated by the Queensland forest service. Based on the results of the work carried out since the publication of Part 1, seasoning notes and suggested schedules for twenty-two additional species are given in the present pamphlet.

### Tuberculosis in the Far East

THE problem of tuberculosis was one of the subjects dealt with at the Conference of Far Eastern Countries on Rural Hygiene last August (League of Nations. Health Organisation. Report of the Intergovernmental Conference of Far-Eastern Countries on Rural Hygiene. Held at Bandoeng (Java), August, 1937. London: George Allen and Unwin, Ltd. 2s. 6d.). Tuberculosis is recognized as being one of the scourges in Eastern countries. Unfortunately, there is an almost complete absence of accurate data concerning the extent and severity of the disease in rural areas. The importance of carrying out preliminary surveys and sample tuberculin tests in the country is advocated. Financial limitations make it important that an anti-tuberculosis campaign should be simple and adapted to local conditions, and the gradual establishment of a network of rural dispensaries would appear advisable. The establishment of sanatoria, in the Western sense, would not seem to be applicable, but simpler institutions are suggested. A scheme for mass research on tuberculin sensitiveness was drafted.

### Chinese Medicine and the Pangolin

The pangolin or scaly ant-eater (*Manis pentadactyla dalmanni*) is the most primitive of Chinese mammals, and although it is fully protected by law in the colony and island of Hong-Kong, the demand for its carcass makes more extensive protection in South China necessary (*Hong Kong Naturalist*, July 1937, 79). The animal itself is eaten, but a greater danger arises from the belief that the scales have medicinal value. Fresh scales are never used, but dried scales are roasted, ashed, cooked in oil, butter, vinegar, boy's urine, or roasted with earth or oyster-shells, to cure a variety of ills. Amongst these are excessive nervousness and hysterical crying in children, women possessed by devils and ogres, malarial fever and deafness. So much are pangolin scales in request for these purposes that yearly the scales from some 4,000 or 5,000 individuals were imported from Java, with a value of 3,700 guilders.

But recent regulations in Java, which prohibit capturing and killing of pangolins and the export of scales, will turn the attention of the Chinese medicine men more forcibly towards the native product.

### James Eights: a Pioneer Antarctic Naturalist

DR. W. T. CALMAN has done worthy service to the memory of an American naturalist of the early nineteenth century in his presidential address to the Linnean Society (*Proc. Linn. Soc.*, 149, 171; 1937). The accuracy of the descriptions and drawings made by James Eights, his discovery of a ten-legged pycnogon (*Decolopoda*), in which no one believed until the rediscovery of the species by the Scottish National Antarctic Expedition almost seventy years later, his discovery of a new seal and a new dolphin, neither of which he named, his description of the breeding of the king penguin, and of the South Shetland Islands, all mark him as a naturalist of keen perception. It is unfortunate that the appearance of his descriptions in journals not readily accessible should have obscured and delayed the recognition of his merit, and more sad to learn that in his own country he dropped out of the current and lived for a quarter of a century, until his death in 1882, in loneliness, obscurity and poverty.

### Spectrograms of Nova Herculis 1934

THE editors of the *Astrophysical Journal* in 1935 collected data as to the spectrograms of Nova Herculis 1934 available at different observatories, partly with a view to the ultimate production of an atlas showing the changes day by day in the spectrum of the star during the first few months after the initial outburst. On the appointment of a Nova Sub-commission in the Commission of Stellar Spectra of the International Astronomical Union, this material was handed to Prof. F. J. M. Stratton as chairman of that Sub-commission. Further data as to the observational material available were secured, and now the spectrum of Nova Herculis for nearly every day is available from one source or another from the head of the Balmer series to  $H\alpha$ . The Solar Physics Committee at Cambridge has approved the production by the staff of the Solar Physics Observatory of an atlas showing daily changes over that range of spectrum. It is hoped to print the whole atlas on 16 stiff cards—one quarter of the spectrum on each card and one card for each month. The cost will depend on the number of subscribers to the atlas, and subscribers may be asked to pay as much as 25 shillings. If sufficient support is forthcoming, it is hoped to start work on the atlas early in 1938.

### Rabies Prevention in India

DETAILS of the preventive treatment of rabies at the Pasteur Institute of India, Kasauli, are given in the thirty-fifth annual report for the year 1935 by the director, Dr. R. O. A. Smith. The total number of patients attending the Institute and its centres was 21,898, an increase of 657 patients as compared with the previous year, of whom 16,627 received the