

there are minor details, such as the method of fixing the mirror, &c., in the Continental pattern which make them easier of use by those who merely look on the microscope as a tool; and this, combined with the greater handiness in the vertical position when wet preparations are under examination, makes the Continental type more acceptable to the laboratory worker.

Such, in the writer's opinion, are the differences between the two types considered from a general point of view. We can now draw nearer, as it were, and examine each type in detail; and, curiously enough, although the conclusion drawn above was that, for the laboratory worker at any rate, the Continental is the better type, on account of greater simplicity, &c., yet the Continentals, in their more costly instruments, are greater offenders as regards redundancies than the English, the differences in the two types being not so much that one is practically perfect, while the other is not, but that the errors and superfluities in the Continental type are passive—that is to say, they are there, but need not be used, and if used unknowingly make very little difference; while the defects in the English type, if fewer, are more vital, in that the efficient working of the instrument is interfered with if they are not mastered.

Taking first the Continental type, most of the better instruments are fitted with a circular rotating and centring stage, the use of which for anything but petrology it is difficult to guess; the iris diaphragm, below the Abbe condenser, is also fitted with an excentric rotating movement, which will, of course, give oblique light in any azimuth, but as oblique light is altogether discredited, except for certain experimental and lens-testing purposes, it can scarcely be considered a useful adjunct to the average microscope. So much for redundancies. The instruments with this type of substage usually possess a mirror which is fixed as to its centre, but which can be inclined in any position about that centre. This is as it should be, as when mounted in this way it is easier for the average worker to illuminate properly; but such mirrors are usually fixed, not on the tailpiece, but on the part that slides in the tailpiece groove, thus altering the position of the mirror when focussing the condenser, which, when using a small source of illumination, such as a lamp, is a disadvantage, but a very minor one, compared with the swing tailpiece on which the mirror is mounted in most of the cheaper forms of the Continental type, and practically all patterns of the English type. The one advantage of the swing tailpiece is, of course, that oblique light can be obtained by its aid, a very doubtful advantage, as indicated above, and far too dearly bought by adding an adjustment that invariably puzzles the average man, and leads to more bad microscopy than all the other faults of either type put together.

In the writer's opinion, it is the combination of the altogether undesirable swing tailpiece with the desirable (if understood) centring substage, that has caused the prejudice (for such it amounts to) in certain quarters against the English type.

The first should be done away with entirely; the second, except for instruments used for amateurs, with almost as many condensers as objectives, should also be conspicuous by its absence, the centring nose-piece, or objective changer, such as made by Zeiss or Leitz, being a much more practical method of centring for the laboratory worker, who almost invariably uses only one condenser.

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A BIRD-BOOK FOR YOUNG PEOPLE.¹

WITH the assistance of Mr. A. R. Horwood, of the Leicester Museum, who has written the first seventy-eight pages dealing with bird photography, collecting eggs and skins, mounting the latter, and nature-study generally, Mr. Westell has succeeded in producing a very readable little volume. It is also rendered more attractive by the photographic illustrations, many of which appear to be from nature, although others are obviously "faked." The author treats his subject from the point of view of environment, discussing in turn the birds of the garden, the lane, the field and meadow, the air, the woodland, the heath, moor and mountain, the riverside, and the coast. That such an arrangement has a certain advantage from the point of view of the collector is sufficiently obvious, and in the opinion of the author it does not apparently outweigh difficulties that arise from the systematic point of view.

As regards systematics, the author, with the aid of Mr. A. R. Thompson, gives, in the form of an appendix, a list of British birds brought, so far as



Wheatear and Nesting-hole under Rock. From "The Young Ornithologist."

possible, up to date, with their scientific names. This is based on one recently compiled by Mr. Ogilvie Grant, but with some modifications in the sequence of the orders, which, in our opinion, are no improvement, since, whatever may be popular views on the subject, British orders of birds ought undoubtedly to commence with the passerines and end with the gamebirds. In the matter of generic and specific names it is satisfactory to find that the author takes a conservative course.

It has, however, to be mentioned that the systematic list does not in all cases tally with the text. For instance, we find on p. 165 of the latter reference to one species of coal-tit, whereas two, the British and the Continental, are mentioned in the former, and it is accordingly a difficult matter for the young collector to identify which is described. That they are not really two species is immaterial. It may also be mentioned that no mention is made in either place of the Irish coal-tit, recently described by Mr. Grant. A word must also be said in regard to the index.

¹ "The Young Ornithologist: a Guide to the Haunts, Homes, and Habits of British Birds." By W. P. Westell. Pp. xv+311. (London: Methuen and Co., Ltd., 1911.) Price 5s.

We happened to want to see what the author had to say about the partridge, and naturally turned to the letter P, where no such name occurs. At last we find the bird, together with several other species, under the entry "Common," which, to say the least, is absurd. In fact, the prefix of "common" to the partridge is not required at all.

R. L.

ADMIRALTY REORGANISATION.

THE official memoranda published by the First Lord of the Admiralty on January 8 are of great interest, but that relating to the Naval War Staff is of much greater importance than the other two. Mr. Churchill discusses at considerable, if not unnecessary, length the distinctions which he believes to exist between "naval and military problems," apparently considering it necessary to justify differences of organisation which will be found at the Admiralty and at the War Office when the new scheme has been developed. The First Lord is an able and forcible writer, who might be expected to state his case well, but it may be questioned if it would not have served his purpose better and have given a clearer understanding of the subject to the public if his memorandum on the Naval War Staff had been less diffuse. The fact is admitted by him that "during the course of years all or nearly all the elements of a War Staff at the Admiralty have been successively evolved in the working of everyday affairs." The edifice is now to be completed and crowned by combining "these elements into an harmonious and effective organisation." It is proposed "to invest the new body with a significance and influence which it has not hitherto possessed, and to place it in its proper relation to existing powers." This is obviously both wise and necessary action; but it is scarcely to be described as such a radical change as some persons have asserted.

In the current Navy Estimates provision is made for a Naval Intelligence Department and a Naval Mobilisation Department, each under a naval director (rear-admiral or captain), the former department including twenty-one naval officers and thirteen civilians, the latter six naval officers and four civilians. The total cost of these departments is about 22,000*l.* per annum. Both departments are placed under the First Sea Lord, and their duties are sufficiently indicated by their names. In the new scheme they will continue in existence, and a third section is to be added, to be known as the "Operations Division," and to be placed under a director. All three sections are to be combined together under a chief of the staff, who is to be "a flag officer, primarily responsible to the First Sea Lord, and working under him as his principal assistant and agent." "Constant, free, and informal intercourse between [the three sections] is indispensable"; and it is laid down that each of the directors is "to be kept fully acquainted with the work of their two colleagues."

All this is admirable, but the principles involved are in no sense novelties at the Admiralty; nor is it conceivable that the consideration of "war plans"—which is stated to be the special business of the new section—has not been practised at the Admiralty hitherto. Long-continued peace has tended to drive somewhat into the background the primary importance of a scientific study of operations and preparation of "plans of campaign," but it is well known that the great shipbuilding programmes which have been carried out during the last twenty-five years have been based—as they ought to have been—on strategical plans prepared by the Admiralty for the naval defence of the British Empire, its commerce and

communications. While this is true, it is equally true that the enormous increase of the Royal Navy, the growth of rival war fleets, and the present complex conditions of naval warfare, have all emphasised the need for greater attention and closer study of the subject by competent persons. Consequently there can only be universal and hearty welcome of the endeavour now made to meet the pressing necessity by the development of an advisory War Staff at the Admiralty.

NOTES.

M. LIPPMANN has been elected president of the Paris Academy of Sciences for the present year, and Prof. Guyon vice-president.

THE Academy of Sciences of the Royal Institute of Bologna has awarded the Élie de Cyon prize of 3000 lire for 1911 to Prof. E. A. Schäfer, F.R.S., of Edinburgh, for his work on the ductless glands, and especially for his recent work on the pituitary body.

IT is proposed to establish in Dartmouth a permanent memorial to Thomas Newcomen, known for his work in connection with the steam engine, who was born in that town in 1663. A meeting of persons interested in the matter was held yesterday in the Dartmouth Guildhall. The Mayor of Dartmouth, Mr. Charles Peek, and Mr. T. F. Caston, the honorary secretary to the Newcomen Memorial Committee, will welcome suggestions as to the best manner of perpetuating the memory of the inventor and his invention, and be glad to receive contributions.

THE council of the Royal Sanitary Institute offers the Henry Saxon Snell prize for competition this year. The prize was founded to encourage improvements in the construction or adaptation of sanitary appliances, and is to be awarded by the council at intervals of three years, the funds being provided by the legacy left by the late Henry Saxon Snell. The prize will consist of fifty guineas and the silver medal of the institute, and is offered for an essay on "Suggestions for Improvements in the Ventilating, Lighting, Heating, and Water Supply Appliances and Fittings for an Operating Room and its Accessory Rooms for a General Hospital of 400 Beds (no Students)."

AN influential body of gentlemen interested in the preservation of our local antiquities has presented a memorial to the committee now engaged in considering schemes for the future utilization of the Crystal Palace and its grounds, suggesting the establishment of a National Folk Museum. The nearest parallel to the proposed institution is the Northern Museum at Stockholm, with its offshoot the Open Air Museum at Skansen. The scheme suggests the erection in the Palace grounds of a series of typical ancient houses, each provided with appropriate gardens and furniture, and an open-air amphitheatre for pageants, folk-songs, and dances. Part of the main building of the Palace might, the memorialists suggest, be devoted to exhibits of domestic art products, toys and games, a folklore room, a museum relating to the Royal House, and other exhibits illustrating the origin and evolution of the various departments of national culture. Something of the kind has been attempted in the Pitt Rivers Museum at Oxford, and the educational value of the culture series arranged by Mr. H. Balfour supplies good evidence in support of the present proposals. The domestic appliances of past times are now disappearing so rapidly that unless active steps are taken at once it will soon be impossible to supply the exhibits needed for a folk museum such as that now suggested.