ORE DEPOSITS.

For a generation or so, according to Dr. Mendenhall, this branch of geology has brought forth no such universally accepted generalisation as appeared in the preceding period. A large amount of data has been accumulated, however, and the possibility of interpreting these data by scientific principles has been actively tested for the purpose of solving the important economic problems of ore-finding and mine development. A growing consciousness of the prospective shortage in supply of the precious metals, as well as some of the base metals, has led to attempts to survey broadly the whole field of mineral supplies, to see whether, from the detailed studies that have been made already, any general laws can be deduced that will prove helpful as a guide to means of increased production. In this connexion there has been in recent years a growing appreciation of the international aspect of the problem of mineral supplies.

As Dr. Mendenhall fully realises, however, this, and other of the topics he deals with, relate to applied rather than to pure geology; and, unless one is satisfied that geology is a perfected science, it seems needful that the fundamental principles of the science should receive attention; for science has to be established before it can be applied. Is sufficient being done for the principles of geology by the present generation, and is adequate progress being made towards the unity and co-ordination of the various specialised branches of geology? Dr. Mendenhall assures us that the trends in American geology show that sound and substantial progress, impressive in the aggregate, is being made. His rather optimistic view of this matter is defined in his opening remarks, as already mentioned, to the effect that progress in the science as a whole is made by the maintenance of a united front by bands of specialists, each ploughing its rather lonely furrow. We may, however, reasonably doubt whether bands of specialists are capable of moving forward on a united front without some generalship in the way of fundamental scientific principles to guide them.

Looking at the subject from a less appreciative point of view, and presumably more as a student of principles than of details, President Lowell of Harvard said not long ago that for many years geology had taken no forward step. In his address last year as president of the Institution of Mining and Metallurgy, Sir Thomas Holland voiced a similar view. These differences of opinion as to whether geology is making progress clearly depend upon the viewpoint we take. Looking at the matter from a specialistic point of view, Dr. Mendenhall is no doubt right in claiming that there has been movement. Viewing it more generally, President Lowell is no doubt equally right in claiming that such movement as has taken place does not constitute progress. Anyhow, it seems desirable enough that geologists should keep well in mind the need that exists for the cultivation of scientific principles as well as specialistic details, for only by so doing will it ever become possible either to raise the status of geology as a science, or to cope with the many difficult problems, both scientific and economic, that await solution. T. C.

British Association at Oxford.

PRELIMINARY PROGRAMME.

THE preliminary programme of the British Association meeting in Oxford on August 4-11 has been issued from the office of the Association at Burlington House. It indicates that the presidential address by the Prince of Wales is expected to deal, among other matters, with relations between scientific research, the community, and the State, both at home and in the overseas Dominions. The address will be delivered, at 8.30 P.M. on August 4, in the Sheldonian Theatre, but as the accommodation there is not expected to suffice for so large a meeting, the proceedings will be relayed to the Town Hall, and, if necessary, to the Union Society's Hall or elsewhere.

The subjects of a number of the addresses by sectional presidents are announced. In the mathematical and physical section, Prof. A. Fowler will deal with the production and analysis of spectra; and spectroscopy is likely to be an important subject of discussion in this section. Prof. J. F. Thorpe will address the chemical section on the scope of organic chemistry, and Prof. S. H. Reynolds the geological section on progress in the study of the British Lower Carboniferous rocks. In the zoological section, Prof. J. Graham Kerr will speak on biology and the training of the citizen. The Hon. W. Ormsby-Gore will bring the first-hand experiences of his African tours to bear in discussing the economic development of British tropical Africa, in the geographical section. Sir Josiah Stamp will address the section of economics on inheritance as an economic factor. In the engineering section, Sir John Snell will deal with the recent and probable future development of the electricity supply. Prof. H. J. Fleure, in the chair of the anthropological section, will review the modern position in regard to knowledge of the evolution of human races; and Prof. J. B. Leathes, addressing the physiological section, will deal with function and design. Announcements received since the programme went to press include that of Sir Daniel Hall's address to the agricultural section; his subject will be the area of cultivation required to feed the population. Prof. F. O. Bower, who succeeds the late Dr. W. Bateson as president of the botanical section, will review the state of botanical science at the present time in comparison with that at the Oxford meetings in 1894 and 1860. One of the evening discourses will be given by Prof. A. S. Eddington, and a large number of discussions on leading scientific subjects have already been arranged. On Thursday, August 5, there will be two on important Imperial topics—educational training for life overseas, and the effect of contact with European civilisation upon African native races.

The Vice-Chancellor of the University of Oxford and the Mayor of Oxford will hold receptions, and the local executive committee will give a conversazione, with the co-operation of the Junior Scientific Club. A number of excursions to places of interest are also being

arranged. Among preachers at the cathedral and principal churches on the Sunday during the meeting will be the Bishops of Oxford and Winchester, the Dean of St. Paul's, and the Master of the Temple, and at Mansfield College, Dr. Selbie, the principal. Assistance is offered by the local committee to members desirous of obtaining accommodation, during the meeting, in colleges, hostels, lodgings, and private hotels, and there should be no lack of room for visitors, provided (but the proviso is important) that early application be made on the form sent out with the programme.

News and Views.

WE note with pleasure the appointment of an engineer officer of the Royal Navy as a Naval A.D.C. to the King. This is the first time this honour has been bestowed upon a naval engineer. The officer selected is Engineer Captain E. P. St. John Benn, who is at present in command of the Royal Naval Engineering College, Keyham. The College, it will be remembered, was opened in 1880, but owing to the changes due to the Selborne scheme of training the direct entry of engineer cadets ceased and for some years the College was closed. It was reorganised in 1920 and midshipmen from Dartmouth and special entry cadets for the Engineering Branch now enter it for a four years' course of training in mechanical and electrical engineering. Captain Benn's appointment is the direct outcome of the representations made by the Engineering Institutions to which we have already referred, and to which the Duke of Northumberland alluded in his presidential address last week to the Institution of Naval Architects. In the course of his remarks the Duke of Northumberland said that in the opinion of the Institution it was an anachronism to emphasise the difference between the executive officer and his engineering colleague, and that it was felt that if a place could be found in the Board of Admiralty for direct representation of the engineering branch it would certainly tend to make engineers confident that their views would be fully considered. With these views we are in entire agreement.

THE Hon. Robert Boyle remarked that "it may much assist us to take notice of the multitude of Effluvia, and make us expect great matters from them," and the chief conclusion reached in the course of some investigations recently undertaken for the *Forum*, and described by Mr. E. E. Free in the March issue of that journal, is: "that a conscious effort to train our national noses might have a distinctly worth-while effect on the comfort of living." A similar conclusion has been arrived at by quite a number of investigators; reference may be made to various papers on the subject listed in "Osmics" (Oliver and Boyd, Edinburgh, 1922, 1924). The conclusion is strengthened by finding that the percentage of correct identification of the odours used in these tests is only 21·2, and in a group of students at Dartmouth College, 27·4, whereas a trained pharmacist identified correctly eleven out of twelve odours submitted. The conclusion that people do not differ greatly in their olfactory acuity is somewhat vitiated by the circumstance that the paper does not reveal the employment of exact olfactometric methods, the odours being merely referred to as very weak, weak, moderately strong, and strong. While Henning's method of classifying odours is criticised, there is no mention of Zwaardemaker or Heyninx. "We found a complete absence of indication that any primary list exists at all. So far as we can determine from our tests each odour is smelled individually and all of them unlike each other." This conclusion may be due to the small number of odours employed, as well as to the circumstance that association by similarity involves more elaborate neuron patterns than association by contiguity. Various instances are given of affects and associations due to odours, and Mr. Free concludes that smells are largely recognised by their associations. The value of the paper would seem to lie in the plea for training the sense of smell, and perhaps, too, in emphasising the value of previous work on the subject, for example by Titchener, Vortriede, Harris, and others, not to mention Dr. Dan McKenzie's "Aromatics and the Soul," which Mr. Free would find to be an excellent introduction to the subject he has written about.

IF it can be shown that those who launch a new scientific journal are justified in their claim that it can indeed contribute to the welfare of the science that it is meant to serve, then even those who bemoan the increase of publications will welcome it. In the foreword to the first number of the *Quarterly Review of Biology*, Prof. Raymond Pearl, the editor, gives adequate reasons for adding yet another to the 25,000 already existing reputable scientific journals of the world. The new journal is addressed primarily to all men of science who wish to keep soundly orientated as to the general progress of biology, but it is intended further to be an effective answer to the menace of Fundamentalism, which is best met by the diffusion of scientific knowledge among intelligent men and women who are not professionally scientific workers but are genuinely interested in the advances that are being made. The journal, which costs 5·50 dollars a year, is published by the Williams and Wilkins Company, Baltimore; the associate editor is Prof. R. W. Hegner, and the advisory board includes fifteen of the best-known American biologists, most 'specialisms' being represented. The first number includes the following papers: "The Biology of the Mammalian Testis and Scrotum," by C. R. Moore; "Symbiosis among Animals," by L. R. Cleveland; "Experimental Studies on Morphogenesis in the Nervous System," by S. R. Detweiler; "A Review of the Discovery of Photoperiodism," by K. F. Kellerman; "Recent Discoveries in the Biology of Amœba," by A. A. Schaeffer; reviews of seventy-seven new biological books, including a long critical