Committee on Coal Petrology in its attempts to standardize terminology have been, and still are, quite formidable. From a purely petrographical standpoint, although the optical identification of many components of coals has advanced considerably in recent years, compared with the days when 'clarain', 'durain', 'fusain' and 'vitrain' were the common labels (Stopes), there still remain problems of determining the ultrafine structure and molecular constitution of the now recognized components, and of relating these features to the physical properties of the many coal-types concerned.

Palaeontology in the U.S.S.R.

The recent volumes of the *Transactions of Palaeontological Institute (Moscow)* are: (103) *Corynexochoidea Trilobites and their Historical Development*, by N. P. Suvorova (1964); (104) *Tertiary Homoptera of Stavropol Region*, by E. E. Bekker-Migdisova (1964); (106) *Morphology, History of Development and the System of Ordovician and Silurian Bryozoa*, by G. G. Astrova (1965).

High-temperature Studies on Blast Furnace Slags

With the aid of differential thermal analysis and X-ray diffraction methods, the devitrification of solid glassy blast-furnace slag and crystallization of molted slag have been investigated in South Africa by J. E. Krüger, K. H. L. Sehlke and J. H. P. van Aardt, of the Materials Division, National Building Research Institute, C.S.I.R., Pretoria (*Reprint from Cement and Lime Manufacture*, 37, Nos. 4 and 5; July and September 1964. C.S.I.R. reference *R/Bou* 120). When vitreous blast-furnace slags are heated to 800°–900° C, devitrification takes place; the heat evolved during this process can be clearly seen on a differential thermal analysis curve, of which several examples are given in their paper, *High-Temperature Studies on Blast Furnace Slags*, by the authors concerned. It was found that for the ten samples of slag selected (seven of them South African), the appearance of the differential thermal analysis thermograms differed from slag to slag, even if the chemical compositions of the slags were similar; that when the slags were heated to temperatures corresponding to different points on the differential thermal analysis thermograms and subjected to X-ray diffraction analysis, analogous with the process of slow cooling of slag, different crystalline phases formed during devitrification; the latter are identified. Further, there is marked agreement between phases of a slag formed after complete devitrification and phases emerging after slow cooling of the molten slag to ambient temperatures. Two other significant conclusions arise from these investigations: slags possessing poor hydraulic properties would, on complete devitrification, give phases of low calcium content, such as pseudo-wollastonite and diopside, indicating a low calcium potential for such slags; and devitrification differential thermal analysis peaks persist even after the slags have been subjected to hydration for prolonged periods. This paper is worthy of study by all workers in the field of slag-mineral analysis, particularly as regards recognition and identification of mineral phases with change of state.

Handbook of Seed Health Testing

The *Handbook of Seed Health Testing*, issued by the International Seed Testing Association (I.S.T.A.), comprises four series of papers as follows: Series 1, general topics; Series 2, seed pathology of a particular crop or a group of organisms; Series 3, working sheets, each dealing with one seed-borne disease—the methods being based on co-operative work over the past 8 years by the Plant Disease Committee of I.S.T.A.; Series 4, description and illustrations of seed-borne fungi. The papers are first being published from time to time in the *Proceedings of I.S.T.A.*, and then reprinted so that they are available for general purchase. Thus, Chapter 1 of Series 1 is an annotated list of seed-borne pathogens published, in this case jointly, by the Commonwealth Mycological Institute, Kew, and I.S.T.A. in 1959; and Chapters 2–4 give information on seed weakness, pesticide treatment and a review of methods; of Series 3 the first 33 working sheets have been prepared (loose-leaf in binder), the host plants including wheat, rice and sesame; and, as noted in *Nature* (207, 579; 208, 319; 1965), the first papers of Series 4, descriptions and illustrations of 77 seed-borne fungi found mainly on oats and flax, have been compiled by Malone and Muskett. A colour transparency scheme is planned in connexion with Series 3 to help with recognition of seedling symptoms. The *Handbook* thus replaces the *Manual for the Determination of Seed-borne Diseases*, by Dr. L. C. Doyer, of the Wageningen Seed Testing Station, published in 1938 under the aegis of I.S.T.A. This, the only work of its kind, is now unobtainable. Those parts of the new *Handbook* already completed cost approximately 40 guilders (£3 sterling, 8.5 dollars) (half-price to members of I.S.T.A.), and are available at the I.S.T.A. Secretariat, Binnenhaven 1, Wageningen, Netherlands.

Aureomycin and the Cultured Pearl Industry

Japan to-day produces some 400 million cultured pearls per annum, of which 97 per cent are exported. It is a fact that the 'natural' pearls discovered now play a relatively insignificant part in the world market. It was towards the end of the nineteenth century that a Japanese, Kokichi Mikimoto, first hit on a successful technique for 'seeding' and caring for oysters, from which the idea of the cultured pearl gradually took shape; he patented his process and started to export this 'natural' product. Mikimoto was successful in a lawsuit that followed, in the course of which biologists at the time, who had tested both his and natural pearls, reported that there was no difference between them. Thus the cultured pearl industry grew apace. Japanese oyster farms are located in selected estuaries, where specially bred oysters are seeded with round beads manufactured from shells of what are called 'pigtoe mussels', most of the latter being derived from the Mississippi and Tennessee Rivers in the United States. Maturity of the pearls thus formed takes from three to five years, depending on the size of the pearls sought. But until comparatively recently, only three out of five oysters produced some sort of pearl, and only one out of every twenty pearls was considered up to top standard ('hanadama' or 'tears of the moon', as they are known in Japan). About 5 years ago the problem of improving yields and quality of these cultured pearls was investigated at the Fisheries School of Mie Prefecture in Japan, by a research team headed by Tetsuo Miyauchi. Starting with the theory that bacterial infections at seeding time were responsible for poor yield, misshapen or discoloured pearls, experiments were begun with applications of Lederle's broad-spectrum antibiotic, 'aureomycin chlortetracycline', in an effort to halt these infections. These trials were eminently successful. After four years of tests, this technique resulted in a 30 per cent increase in yield of top-quality 'hanadama' pearls and a significant increase in the total number of pearls obtained. This somewhat unusual application of a modern antibiotic is briefly described in an article, "Pearls: 'Tears of the Moon'" (*Cyanamid International Newsletter*, 4, No. 4. Cyanamid of Great Britain, Ltd., Bush House, Aldwych, London, W.C.2). The Japanese affiliate of Cyanamid, Ltd., Lederle (Japan), Ltd., has prepared a new formulation of 'Aureomycin' for the cultured pearl industry, known as 'Pearl-up' (chlortetracycline), designed to boost production on a world-wide scale.

Hospital Libraries

A pamphlet, *Hospital Libraries*, issued by the Library Association (*Hospital Libraries: Recommended Standards*