gases in steel bottles—containers which are subject to hard use; they are successfully coated with 'Araldite'-based paint, after shot-blasting, applied by electrostatic spray. These Ciba resins are being increasingly used by other industries in Ireland and such uses are planned for description in forthcoming issues of *Technical Notes*.

Iron Ore Production and Research at Broken Hill, Australia

The well-known *B.H.P. Technical Bulletin*, produced periodically by the Broken Hill Proprietary Co., Ltd., Australia, is always a source of valuable technical information on the iron ore industry, arising from operational and research activities within this great organization, and the issue published in April 1965 is no exception to this dictum (No. 22: 9, No. 1; April 1965). An important contribution is a series of articles describing a new ore agglomeration laboratory built at the Company's Central Research Laboratories at Shortland, New South Wales. A general description of the new premises is first given by L. C. Bogan, who describes the laboratory layout, technological capabilities and limitations of the pilot plants installed, programmes scheduled, and services available; the latter includes chemical analysis by direct-reading spectrophotometry, petrology, and X-ray diffraction and X-ray spectroscopy. "Comminution and Green Pellet Production" is the title of a second article, by D. H. Harraway, in which he discusses the several pilot plant operations involved in production of green pellet agglomerates, comminution of the ore and mixing it with additives and water to form the ore pellets. A third article, "The Experimental Pellet Heat-Hardening Unit", by C. W. Brock, describes how, having produced the green pellets, it is necessary to heat-treat them ". . . to form a strong, approximately spherical aggregate capable of withstanding weathering and the high handling stresses which may be expected in stockpiling, transportation and blast furnace charging". Further contributions to this *Bulletin* include an account of "The Development of Koolan Island", by M. T. Phillips; this is one of the islands of the Yampi group off the north-west coast of Australia, where production of iron ore commenced in 1964. Petrological research is represented by an interesting paper by Sylvia Whitehead entitled "Petrological Notes on the Koolyanobbing Iron Ore Formation", the location being the Koolyanobbing range of hills situated about 35 miles north-east of Southern Cross, Western Australia. An important haematite ore-producing region in South Australia is the Middleback Ranges, and K. L. Ashworth describes this and other prospects in his article on "Geology of Iron Duke, South Australia", situated approximately 36 miles west of Whyalla, on the eastern Eyre peninsula. Finally, there is a paper by J. A. Gregory and S. Wolski on "Experimental Assessment of Factors Controlling the Production of High-Basicity Sinter".

South African Prehistory

An interesting pamphlet entitled *Bowmen, Spears and Shields in Southern Rhodesian Rock Art*, concerned with the types of shield depicted by the artists and the distribution of the bowmen and the spears, has recently been published (*Cimbebasia—SWA Research*. No. 10. Pp. 8. Windhoek, S.W.A.: State Museum, 1964). The author, C. K. Cooke, has personally visited more than a thousand rock shelter and cave sites and has, of course, drawn on the works of other authorities. The important fact which emerges is that the shields figured are of definitely Bantu type, and this would suggest that many of the painted rock shelters must be A.D. in date. It has been the custom to ascribe a great antiquity to the rock paintings of Southern Rhodesia and South Africa. However, it has constantly been forgotten that paintings in open rock shelters could scarcely have survived serious climatic changes, such as have occurred in the distant past —conditions which permitted much precipitation and subsequent evaporation of water vapour on the rock shelter walls. It is therefore very interesting that research into the types of shield figured in this late phase of Southern Rhodesian rock art points to a comparatively late date for its creation. The late C. van Riet Lowe once remarked that the celebrated "White Lady" of Brandberg could as well have been painted in A.D. 1500 as in 1500 B.C.! The June issue of the *South African Journal of Science* contains an interesting article by R. R. Inskeep. Not far from Port Elizabeth a series of springs on the hillside behind the homestead on the Amanzi Estates has deposited thick sediments which contain many lower palaeolithic implements. The author has undertaken some considerable excavation and gives us geological sections and a determined stratigraphy. The implements are almost all of the core type, though some worked flakes do occur. Hand-axes, cleavers and choppers have been collected, and the author dates the finds to an early stage in the Old Stone Age. Some samples of pollen were noted, and tentative identifications indicate the presence of members of the Cyperaceae, Gramineae, Compositae and Leguminosae (including an acacia) families. Mr. Inskeep is to be congratulated on a useful piece of work.

Bark Canoes and Skin Boats of North America

Like many traditional crafts, the building of bark canoes is dying out and much information about it has already been lost. E. T. Adney, who died in 1950, was a skilled artist, who devoted a good deal of his life to the study of these canoes and acquired practical experience of building them. He left a lot of models, now in the Mariner's Museum at Newport News, Virginia, as well as numerous papers "in a highly chaotic state". H. I. Chapelle, who is curator of transportation in the Museum of History and Technology, a constituent of the U.S. National Museum, has carried out the arduous task of compiling the relevant information from these papers and the models (Smithsonian Institution, Washington. Museum of History and Technology. Bulletin No. 230: *The Bark Canoes and Skin Boats of North America*. Pp. xiv + 242. Washington, D.C.: Government Printing Office, 1964. 3.25 dollars). He has added a chapter on Arctic skin boats and one on temporary craft—canoes of bark other than birch, moose-hide boats and the coracle-like bull boats. There is an appendix on rolling kayaks by J. D. Heath. Information derived from Adney makes up the main part of the book. It consists of three chapters on early history, materials and tools, and form and methods of construction, followed by three chapters treating in detail the canoes of the Eastern Maritime Region, Central Canada, and North-West Canada, of which the first is the fullest. The work is fully illustrated with photographs from many sources and excellent drawings, mostly redrawn from Adney's by Chappelle. Amid a wealth of detailed information a fact of general interest emerges. There is a fundamental difference between bark canoes and Eskimo skin boats, namely that the frame of the bark canoe (and this includes 'temporary' Indian skin boats) is built up within the cover and would collapse without it, whereas the Eskimo boats have a rigid frame over which the skin cover is afterwards stretched. As is well known, bark canoes are so suitable for their purpose that they were at once adopted by Europeans on arrival, and used on a large scale in the fur trade. This suggests that this valuable publication may find a practical use in addition to its great historical importance.

Production Ecology in Tropical High Forest

Not much work has been carried out on production ecology in tropical high forest although it is estimated that 38 per cent of the forests of the world belong to this type. However, a very useful investigation has been carried out in the southern Ivory Coast (*Production*