

in considerable numbers, but the weather was unsuitable for the larvæ to produce many autumn specimens. *V. atalanta* and *Colia croceus* were scarce, but striking immigrations of *Pieris rapæ* and *P. brassicæ* from all parts caused great damage to greens. Generic names in full have now been added to the index table and nomenclature is brought up to date. The promptness of the appearance of the report under the difficulties of present conditions is most encouraging to all the voluntary workers concerned.

Australian Aboriginal Artist

ILLUSTRATIONS accompanying the printed report now available of a communication presented at the Canberra meeting of the Australian and New Zealand Association for the Advancement of Science which dealt with aboriginal sculpture render possible an independent judgment on material the discovery of which is hailed by the author, E. P. Goddard, as "one of the most noteworthy finds in many years" (*Report. 24th Meeting Aust. and N. Zealand Assoc. Adv. Sci. 1939, Sect. F., Anthropology*). The sculpture is the work of a woman of about thirty-two years of age, Kalboori Youngi by name, and a member of the Pitta-Pitta tribe. She is obviously a sculptor of natural genius, producing carved human figures remarkable both for their modelling and their detail, as well as their feeling for the disposal of mass and line. She works in two kinds of clays, of which one is used in the composition of the 'widow's caps' used in mourning rites. Her tool at first was a fine flake of quartzite, but she now employs a pocket-knife which has been given to her.

Although the Pitta-Pitta are now in contact with station-life, Youngi has not come under mission influence, nor has she seen sculpture of any kind. The Pitta-Pitta tribe is described as "virtually a tribe of hereditary artists", apparently on the ground that that part of the Diamantina of central western Queensland, more especially Brighton Downs station, contains numerous rock-drawings, paintings and carvings in caves and on rocks "executed long before the white man took up his pastoral holdings". The familiarity with graphic art may suggest the orientation of the aboriginal sculptor in seeking a form of self-expression, unusual and unexpected though it may be, but the derivation of the medium of expression, the sculptor's art, still seems obscure. The sculptures consist of human figures, male and female, singly and in groups, with horses and dogs as accessories rather than main elements in the composition in a manner which suggests the technique of European portraiture. The author compares this work with early Mesopotamian and Egyptian, but the comparison which suggests itself is with Sumerian, and notably the statue of Gudea.

Electrical Development in Ireland

FOLLOWING the reading by Mr. P. G. Murphy of a paper on "The Electricity System of Eire" at a meeting of the University College (Dublin) Engineering Society, Mr. Sean McEntee, Minister for Industry

and Commerce, said that he agreed with the author's estimate that in normal circumstances the demand for electricity in Eire might be expected to double itself within a decade, so that the country would then be using about 800 million of electric units yearly. By interconnecting the electricity systems of Eire and Northern Ireland this was quite feasible. It did not necessarily follow that in normal circumstances the exchange of normal power would be very large, but the interconnection would undoubtedly help to reduce the amount of stand-by plant to meet emergencies, and would enable provision to be made for security of supply at a far lower cost than could be made by either system independently. Perhaps this development may be hastened by the present abnormal situation.

From the experience of the Electricity Supply Board, a combination of water-driven stations and fuel-burning stations is essential in Eire. The Shannon scheme has reduced the dependence of Eire upon foreign fuel to about 220,000 tons of coal yearly. On the other hand, the Electricity Supply Board's accounts still shows that during the year ended March 31, 1939, £95,000 was spent on fuel, most of which was imported. Next to the Shannon and the Liffey, the Erne and the Boyne appear to be the most important rivers from a hydro-electric point of view. The Boyne might produce an additional 100 million kwh. per annum, but its development might be very unsatisfactory owing to high rates of compensation to landowners. The Erne, if satisfactorily developed, might give an annual output of 200 million kwh., but its storage facilities and a large part of its catchment area lie within the six counties of the north—a fact which has created a very difficult problem in drainage for the Government of Northern Ireland. Mr. McEntee believes it possible to develop the hydro-electric potentialities in such a way as to improve considerably the drainage in the area affected, but any such proposals would require the active co-operation of Northern Ireland and Eire.

Roads with a Cotton Fabric Basis

IN the United States of America there is a widespread interest at present in the new 'cotton roads' which are being made across the continent from New York to California and from Florida to Maine. According to an article published in *Roads and Road Construction* of April 1, the modern procedure in construction is to lay the cotton fabric on a surface treated with bituminous material. The bituminous material is then applied to the fabric and completely covered with crushed mineral aggregate. The crushed cover material is rolled in and a lighter application of bituminous material is applied and covered with a layer of chips, which are rolled in with a heavy roller. The best results in cotton roads have been obtained from cloth of comparatively open weave. The breaking strength varies between 25 and 45 lb. (grab method) according to grade. The most practicable fabrics cost between 450 and 750 dollars a mile for a road 18 ft. wide.