

"defraction" appears for diffraction, "tantallium" for tantalum, "turpin" for terpene, etc. Although the author claims that the full references will enable his often sketchy accounts to be extended, references are sometimes missing, as, for example, in the inadequate paragraph on cyanogen fluoride.

J. R. PARTINGTON

COLONIAL NATIONAL INCOMES

The Measurement of Colonial National Incomes

By Phyllis Deane. (National Institute of Economic and Social Research, Occasional Papers, No. 12.) Pp. xvi + 173. (Cambridge: At the University Press, 1948.) 12s. 6d. net.

ONE of the most serious gaps in our knowledge of the Colonies has been the lack of adequate statistical analysis of their economic structures. True, there is much scattered statistical material, but it is not always easily accessible and little work has been done to bring it all together to form comprehensive surveys of the Colonial economies.

This book, of its kind a pioneer study, does much to fill this gap, in respect at any rate of three Colonial territories, and ably shows the possibilities as well as the difficulties of extending this work to other Colonies. The main objects of Miss Deane's study were, first, to discover by experiment the possibilities and limitations of applying to the Colonies the techniques evolved for the measurement of the national income of the United Kingdom; and secondly, to throw light on the economic structure and problems of the areas studied. For these purposes three Colonies were examined, Northern Rhodesia, Nyasaland and Jamaica, and their national incomes for the year 1938 calculated. As this inquiry had its beginnings in the early part of the War, 1938 was thought to be the most suitable year for which to make the calculation as there appeared to be relatively more material for that year than for other recent years. Nevertheless, it is impressed upon us throughout the study that the main limitation of all the calculations is lack of data. Moreover, the inquiry was carried out under all the difficulties of war-time London, without first-hand knowledge, by way of field-work, of the territories to which they relate, and therefore the results must be regarded as highly tentative and insufficient to "support firm conclusions on economic conditions in detail". It is the purpose of the research project, however, that the inquiry should be carried into the field.

Mention merely of two problems will serve to illustrate the difficulties that Miss Deane had to face. The first is that of measuring the national income of a territory where a large proportion of the inhabitants are wholly dependent, or nearly so, on subsistence farming; and secondly, the problems created by the existence of two races in one Colony, Africans and Europeans, the latter often with little degree of permanency, and where a significant proportion of the wealth created in the area in fact goes abroad in the form of profits, rents, interest and extra-colonial expenditures. That there are bound to be errors of calculation in the attempt to circumvent such problems with so little data is inevitable; the surprising fact is that the margins of error which Miss Deane has worked out for her calculations should be so small.

But even for those not versed in the finer points of statistical practice there is much that is revealing about the Colonies in the figures presented. In fact, at the end of her study, Miss Deane suggests some of the more obvious ways in which the figures may be applied to bring out certain conspicuous features of Colonial economies, for example, the proportion of income that flows abroad from such territories, the distribution of income between Europeans and Africans, the industrial structure of the economies and so forth. Above all, for the purposes of planning Colonial economic development such figures are absolutely essential. Planning, to be successful, must be done in the light of its effect on total national income, its distribution, and on the channels by which it is spent. For purposes of Colonial development, therefore, we are going to need many more Colonial national income calculations such as the painstaking work Miss Deane has given us—and the sooner the better.

D. RANDAL WIGHTMAN

BIRD PICTURES

Fifty Prints

By Emerson Tuttle. With an Introduction by Chauncey Brewster Tinker, a Critique by Lewis E. York, and a Complete Catalogue from 1921 to 1946. Pp. xv + 21 + 50 plates. (New Haven, Conn.: Yale University Press; London: Oxford University Press, 1948.) 82s. 6d. net.

Wings in the Wilderness

By Allan D. Cruickshank. Pp. xiv + 125 + 125 plates. (New York and London: Oxford University Press, 1947.) 35s. net.

THE beauty of the bird, its elegance, its grace and its wonder of colouring have ever attracted the artist; note, for example, the prominence of the bird in Chinese and Japanese art. We have here two books dealing with bird portraits, in which the artistic theme is the predominant one; but the approach is from different angles, one being that of the etching and the other that of the camera.

The first mentioned is a collection of fifty prints by the late Emerson Tuttle. There are landscapes among them, but the greater part consist of portraits of birds, including many pictures of owls and hawks. Feather texture and bird character are remarkably delineated in these dry-points, the owls being especially satisfying, in particular the portrait of a snowy owl. The feathers are so soft and fluffy you feel as if you must stroke them. One mammal breaks the sequence, an alert and vigorous red squirrel.

In "Wings in the Wilderness" we have reproductions of 125 photographs from the camera of Mr. Allan Cruickshank, in which birds and birds only are portrayed, and as in the case of Mr. Tuttle's pictures, chiefly the birds of North America. We are accustomed to think that British bird photographers do well with their cameras; but this volume shows the high standard achieved by the ornithological camera users of the United States. Young birds, old birds, birds feeding young, birds swimming and birds in flight are portrayed with great skill. Among so many masterpieces of the camera, it is difficult to select pictures for particular praise; but the osprey on the wing is remarkably good and the wild turkey, a fine old gobbler, of especial interest. This is a book to interest everyone who has ever taken a snapshot of a bird.

FRANCES PITT