

SATURDAY, OCTOBER 9, 1926.

CONTENTS.	PAGE
Geography and Town Planning	505
Anti-Fundamentalism. By Dr. B. Malinowski	506
Aids for the Spectroscopist. By H. D	509
Rubber: Natural or Synthetic?	510
Our Bookshelf	512
Letters to the Editor:	3
The Kerr Effect in Wireless TransmissionProf	
F V Appleton	514
Early Egypt and the Caucasus Sir Flinders	3
Petrie, F.R.S.	514
Variability of Species.—Dr. R. A. Fisher and E. B. Ford	515
The Atomicity of Electricity as a Quantum Theory	7
Law.—Dr. Oskar Klein	516
The Rôle of the Cerebellum in the Co-ordination o	
Animal Movement.—Prof. Frederick R. Miller	:
and Dr. N. B. Laughton	515
The Action of Silica on Electrolytes.—Prof. J. N. Mukherjee	517
The British Patent Office.—Ernest E. Towler	517
Apocryphal Medical Science.—Prof. Aldo Castel	
lani, C.M.G., Dr. George C. Low, Dr. David	1
Nabarro, and Sir Ronald Ross, K.C.B., F.R.S.	. 518
Kammerer's Alytes.—Dr. G. K. Noble .	518
Variation of Penetrating Radiation on the Jungfrau	518
—W. Kolhörster and G. von Sals.	_
Function and Design. By Prof. J. B. Leathes	
F.R.S	. 519
•	
C. D. Broad	523
The Tropical Cyclone. By E. V. Newnham .	524
The Reported Conversion of Hydrogen into Helium	
News and Views	. 527
Our Astronomical Column	. 531
Research Items	532
Jubilee of the Mineralogical Society	535
Classification of Amœbæ	. 5 36
Ventilation in Factories	. 536
International Agreements affecting Port Sanitary	
Work	537
The Measurement of Ocean Currents. By H. W. H.	
University and Educational Intelligence	538
Contemporary Birthdays	539
Official Publications Received	539
Diary of Societies and Public Lectures	. 540

Editorial and Publishing Offices:

MACMILLAN & CO., LTD.,

ST. MARTIN'S STREET, LONDON, W.C.2.

Editorial communications should be addressed to the Editor.

Advertisements and business letters to the Publishers.

Telephone Number: GERRARD 8830.
Telegraphic Address: PHUSIS, WESTRAND, LONDON.
NO. 2971, VOL. 118]

Geography and Town Planning.

WO papers presented to Section E (Geography) at the recent Oxford meeting of the British Association—one on Manchester, the other on London -formed the introduction to an important discussion on "Regional Work in Geography." The Town Planning Act, 1919, made possible the reshaping of existing towns and the determination of the lines of future growth. Thirty-seven joint committees have now been formed, including altogether more than five hundred authorities and covering an area of some six million acres. The regions affected differ considerably in area. The Manchester and district region has an area of more than one thousand square miles, and includes about a hundred local authorities; Worthing and district consists of three councils and about fifteen thousand acres. The object of these committees is to lay down in general the lines of road development, housing schemes, and localisation of industries. These somewhat procrustean methods of shaping the geographical future of our towns and countryside are advocated on two main grounds. Some urge the increased industrial efficiency of the region, in which case, road building and the settlement of industrial sites are paramount. Others give precedence to the preservation of historical associations and of scenic beauty, as illustrated by Prof. Abercrombie's work on the future development of east Kent.

That the haphazard growth of our centres of population should no longer continue is eminently desirable; that pushful industry should no longer, like a flood, swallow up all other regional functions is equally desirable. But who is sufficient for these tasks of regional reorganisation? In the light of present developments, should we now approve or disapprove of the purchase of Trafford Park, Manchester, as a public recreation ground? Once the new coal pits of the Sherwood district are raising their maximum output, are we able and do we desire to overcome the enormous attraction the new coalfield will exert on innumerable industries with their regional associations? Few administrative authorities wish to strangle the goose that lays the golden egg.

One danger of this rapid development of regional planning is the lack of knowledge of how the present adjustment has come to be. No doubt economic or administrative pressure can be sufficiently exerted to compel a certain town plan, but if undue pressure is exerted on what would be its normal growth, there will be a tendency towards restricted growth, possibly deformity and decline. To predict the lines of future urban development is asking much of the prophetic

powers of man. His only guide is a clear understanding of the growth of places which offer parallels to his own.

This study has been strangely neglected, and the geography of a place has too often been confounded with its economics or the history of its people. Mr. Fitzgerald showed that we are not yet in a position to assess the physical factors continuously emphasising the nodality of Manchester-Salford, and the civic factors which make for the urban independence of the surrounding textile towns. Yet this assessment must be made before the question of federation can be reasonably approached. Economically there would appear to be every reason for the amalgamation of Manchester and Salford. Actually, the citizens of the twin cities are separated by more than the width of the Irwell. Trafford Park, with more than a hundred different industrial undertakings and more than twentyfive thousand work-people, is such an integral part of the Manchester-Salford industrial centre that it would seem an anomaly for it to remain within the two areas of the urban district of Stretford and the rural division of Davyhulme. But what should be the boundary determinants of a single municipal authority, and what weight should be given in particular to historical precedents, to economic necessity and to physical conformity and advantage?

The latter, or site factor, makes the primary appeal to the student of geography. Liverpool has not been able to hold the cotton textile industry at the port. In spite of the serious handicap of haulage of raw material eastwards and manufactured goods westwards across thirty miles of difficult country, cotton has been attracted to the upper Mersey basin within the Pennine and Rossendale gritstone moors. But while Liverpool has failed to accomplish this economic enterprise, Manchester has improved on the handiwork of Nature by converting the unnavigable Mersey-Irwell river into a navigable ship canal. It is this estimate of the extent of man's control over the site of his economic activities which makes town planning for future generations so difficult.

Mrs. Ormsby in her paper on London pointed out the practical difficulties in the acquisition of data upon which town planning must be made. The larger and more complex the area, the greater is the need for some kind of 'plan.' But it is precisely in these cases where extensive co-operation and collaboration is required. In London, for example, the geography—both pure and historical—of each small area needs intensive study before a correct view of the whole can be made. A prerequisite is therefore the development of a technique which will enable the results of workers in different centres to be correctly and fully co-ordinated,

and also will ensure in the maximum degree similar lines of investigation and the elimination of the personal equation. Mrs. Ormsby defined the first step in the geographical survey as the production of a base map (scale six inches to a mile) to show so far as possible the general physiographical conditions underlying present distributions. This map should show ground forms by selected contour lines of reasonably close interval and surface deposits, especially such as gravels and clays. The plotting of population distribution at various periods is equally important and much more difficult. It is to be hoped that the research committee of the British Association at present investigating the method of construction and reproduction of a provisional population map of the British Isles will be able in the near future to consider the best methods of plotting urban populations.

The similar plottings of houses of different character, of factories and industries in conjunction with the site and population, indicate the lines of historical adjustment. It is essential that these lines, however much they may be deflected, shall be continued unbroken in all schemes of town planning of existing and oldestablished human settlements.

Anti-Fundamentalism.

The Ascent of Man by Means of Natural Selection. By Alfred Machin. Pp. xx+325. (London: Longmans, Green and Co., 1925.) 7s. 6d. net.

OST European students are inclined not to take Fundamentalism very seriously; but its power and expansion in the United States are truly alarming. Nor is there any certitude that it will not jump the Atlantic. As a symptom, moreover, it is disquieting. It shows how frail is the hold which science has on modern civilisation; how easily its scope can be mistaken; how strong is the antagonism against the cold light of research, when it dispels man's claims to be the aim of creation. Fundamentalism is certainly not only the most ludicrous but also among the most depressing phenomena of recent intellectual life.

It is well, however, to realise that we cannot blame only the 'crude mystic' and 'uncouth Methodist or Baptist' for Fundamentalism—the Rationalist, as he likes to call himself, is quite as much at fault. There is a tendency among the left wing of scientists to puff up any general principle of science into a metaphysical truth; to build a regular mythology around it; to coin it into dogmas and to make it drag a heavy load of moral responsibilities. Monism, energetics, relativity, the fourth dimension have all been paths from science into