

disadvantageous characters, and to the effects of sex dimorphic physiological qualities. The relation between the size of the primary sex ratio and the amount of mortality, both pre-natal and during adolescence, is such as to lead to the establishment of an optimum reproductive sex ratio among those who, in respect of purely biological properties, are newly equipped for ardent reproduction.

Changing Distribution of Population

IN noting that four chief populous regions, in 'Europe', the Far East, India and eastern North America, now contain three fourths of mankind on one eighth of the land area of the world, it is pointed out by Prof. C. B. Fawcett in his presidential address to Section E (Geography), that the peopling of the fourth of these by the great European migration of the last two hundred years is the only shift of population of world magnitude recorded within the historic period. The south temperate lands even now contain barely a fortieth of the world's population; and the other considerable migrations are merely oscillations of the margins of the four great populous regions.

A more important change is the recent growth of great conurbations. In 1801 London, with 950,000 inhabitants, was the only city which approached a million. Now there are about sixty million-cities, a dozen of which exceed five million, and which together include a twelfth of mankind. The number and population of these great conurbations are growing; and if this trend were to continue unchecked for another two or three generations, it would give a world in which a majority of the inhabitants would dwell in two or three hundred such cities.

Within the great populous areas there is also a development of a few small areas of maximum concentration, where great conurbations tend to cluster. Three such areas are noted. The chief is in Western Europe. Part is in England, where it stretches across country from South Lancashire and West Yorkshire to Essex and Sussex and gives this belt of country a mean density of three thousand persons per square mile. It is continued beyond the Strait of Dover to the Rhineland. A second such area, of similar extent but half as populous, lies along the coast of the Middle Atlantic States of the United States of America, where a fifth of the population dwells on a hundredth of the area of the country in an urban zone from Boston to Washington. A third is appearing along the lower Yangtze in China.

There is as yet no comparable development in India.

Somewhat more recent in its development is the widespread retreat of population from 'regions of difficulty', marked by the diminution of population in all the highland areas of Britain and Europe and in the semi-arid parts of Australia and North America. Both changes are ascribed mainly to improvements in agricultural science and in transport, which make the cultivation of such marginal lands both less necessary and less attractive. This change is aided by the check to the natural growth of population in all the lands of Western civilization; for the rapid increase in numbers which has been a dominant fact of human life during the past two hundred years, during which mankind has increased from about 500 millions to some 2,000 millions, is now coming to an end. But there is as yet no indication that this check to growth is affecting the trends of movements discussed, which result from the development of applied science.

Economic Research and Industrial Policy

THE rationalization and planning movements, unofficial and official, that have in recent years swept over the industrial world involve a number of practical policies that must be separately discussed if their efficiency is to be scientifically assessed. In his presidential address to Section F (Economic Science and Statistics), Prof. P. Sargant Florence reviews recent realistic research into the policies of the siting, size and scope of industries.

A policy of siting or location has been urged upon the Government in connexion with the re-development of the depressed areas. Economic research has had to devise methods of measuring the degree of localization of all industries in the various regions of England and Wales and is now nearer a position to specify what industries can be developed where employment is still stagnant. In general, the extreme localization of industries at the source of fuel or of the existing supplies of skilled labour seems to have reached a limit, and the proximity to the home market to have become relatively more important.

A policy of larger-sized plants, firms or areas of control is usually implied by rationalization and planning. Recent statistical research into prevailing sizes, the trend in sizes, and comparative profits and costs in Britain, Germany and the United States does not confirm the theory that limits to size have been reached owing to organization becoming unmanageable. Size, however,