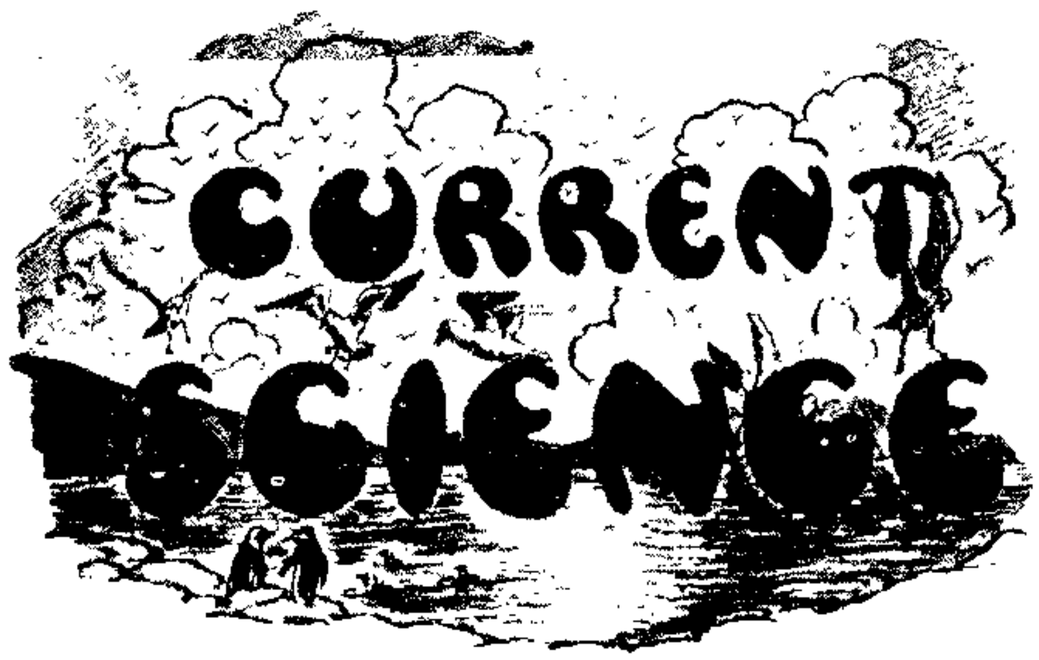

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Census of India, 1931.

THERE is an imposing array of statistical tables and graphs in the Census Report of 1931, illuminated by a clever exposition of some of the fundamental problems of human population relevant to them. According to the figures provided in the Report, India occupies the foremost place among the countries of the world in the number of inhabitants and if the rate of increase such as occurred between 1871 and 1881, *viz.*, 17·74 millions were to be steadily maintained, she would almost certainly continue to hold this dizzy eminence indefinitely. But instead of being a matter of satisfaction, it might well prove a source of irritating embarrassment to the statesmen guiding her destinies. The actual increase in the number of population of this country which has occurred in the last decade is estimated at a figure which approaches equality with that of European countries like France and Italy and exceeds that of Spain and Poland. The urban areas have contributed about 19·2 per cent. to this total increase of nearly 34 millions while the remainder represents the increment supplied by the inhabitants of the rural parts of India. A population of such magnitude as 354 millions spread over an area of eighteen hundred thousand square miles must fill the mind of both the government and discerning public with grave apprehensions and even some of the subsidiary problems such as the relative proportions in the number of men and women at their reproductive ages, the number of births and infantile mortality, the agricultural holdings and the occupations of the people, unemployment, migration of the people and a number of other allied questions have an importance and significance peculiar to India. The satisfactory solution of any of these or all of them must baffle the resources of the most accomplished statesmen even if each of the problems should remain without further complications. Judging by the comparative tables provided in the report, the inference may naturally be drawn that further increase of Indian population will render the problems still more complex and their solution must present insuperable difficulty. The grave aspects of these questions, it appears to us, should engage the attention of the people themselves no less than that of the Government and the attack should be made

in a spirit of mutual understanding and helpful co-operation.

Almost all the recent writers on the population problem discuss it in relation to the question of food supply. It is argued that in India, the great masses of rural population who live perpetually on the verge of insufficiency would become involved in a serious economic position if further accretions are permitted to occur without let or hindrance. This, however, is a contingency which according to the Census Report has not arrived, but no one can afford to ignore the need for so regulating the growth of population that it is able to subsist on the produce of the land without further *imperilling the standard of living*. It ought to be the endeavour of the people to raise the standard, if possible, so that their children are provided with the means of obtaining the benefits of education and employment in the professions for which they are best fitted. The remedy usually suggested for checking the indiscriminate and excessive increase of population is the widespread practice of contraceptive methods. Some of the advanced thinkers are so convinced of the efficacy of this doctrine that they lend the weight and authority of their names to the movement which advocates the introduction of birth control methods.

"The present problem in India," writes Dr. J. H. Hutton, "would seem to be less the actual total increase of the population than the increase of that portion of the population, by far the greater part of course, which is occupied in agricultural and allied pursuits." This statement based on a careful analysis of the Census figures, acquires a great significance when it is remembered that in India even at the present moment the profession of agriculture continues in most parts to be looked upon by the rural community as an end in itself rather than "as a mere means of production of victuals, hence the real danger of a growth of population which must suffer discomfort because this end becomes rapidly more difficult of realisation." If the argument in favour of the limitation of population by artificial methods is based exclusively on the means of subsistence, then its advocates do not appear to have a strong case. Writing on the theories of the problem of population growth in Bengal where the mean density is 611 persons per square mile, Mr. A. E. Porter observes that "during the last 60 years the population of this province has become nearly half as large again as it was in 1872.... Of the total area cultivable only 67 per cent. is now actually under cultivation. If the total cultivable area were brought under cultivation and if improved methods of cultivation yielding an increase of 30 per cent. over the present yield were adopted, then it is clear from a simple rule of three calculation that Bengal could support at its present standard of living a population very nearly twice as large as that recorded in 1931." The conditions of rural life in Bengal are not different from those in other Presidencies and if the apprehension that the people in Bengal would be reduced to the verge of starvation by *further accretions to her population* is not tenable then we believe that the pessimism entertained in regard to the future population of India as a whole, is premature. The possibilities of improving the natural resources of India are practically unlimited and the capacity of the land now under cultivation and what is likely to be brought under agriculture during the next six decades, may be found adequate to support a further addition of 90 millions to the existing population. This period may perhaps suffice to carry the mechanical and biological developments in the methods of cultivation to a point of perfection which would meet the requirements of India sixty years hence. In India further increase of population is inevitable, if not checked by the operation of natural forces, and steps have to be taken therefore for framing a comprehensive programme of scientific investigations for stimulating the fertility of the land and the yield of crops. Perhaps the same period might also witness the organisation of industries on a larger scale which eventually might relieve the possible congestion of the rural population. Without such relief land-holdings would become too small to be economical.

It seems to us that at the present moment, the remedy suggested to limit the population of India within reasonable bounds, purely for economic reasons, does not receive support from the Census figures and the interpretation of them. However, birth-control methods might be found necessary to form part of the social programme of this country if Western conditions and ideals of life, the economic fever and fret of competition were reproduced here on the scale of the most advanced European countries where this doctrine of

regulating the birth of babies is generally accepted. In India the conditions are still not quite favourable for universally welcoming this wild goose that lays no eggs.

The North Bihar Earthquake of the 15th January, 1934.*

By M. S. Krishnan, M.A., Ph.D., A.R.C.S., D.I.C.,
Geological Survey of India.

ON Monday the 15th January 1934, at about 14 h. 14 m. (I. S. T.), Calcutta experienced an earthquake shock of fair intensity which lasted for over three minutes. Buildings swayed, freely hanging objects oscillated vigorously, and even persons in motion were affected. From past experience of earthquakes in Calcutta, it was clear that this one must have effected considerable damage to life and property at the place of origin. News from the country was available only next morning, showing that Patna, Monghyr and Jamalpur had suffered severely. News from the most affected region arrived only two or three days later. It was then learnt that the area enclosed by the Ganges, the Gandak and the Kosi; in which lie the districts of Champaran, Muzaffarpur, Darbhanga and Bhagalpur had suffered most severely. Authentic news was difficult to obtain from here as well as from the adjoining parts of Nepal, as the communications—roads, railways and telegraphs—were cut off and took some days to restore even partially.

The shock was felt throughout the greater part of the Indian Empire, in the Punjab on the west, in several places in the Madras Presidency on the south, and on the Arakan coast to the east. Seismograph stations reported that the main shock lasted for over 20 minutes and that some 13 milder shocks were registered during the night of the same day. Several after-shocks of varying intensities have continued to be registered since then. As is usual with all violent earthquakes, such after-shocks will probably occur for a few months to come.

NATURE AND EXTENT OF THE DAMAGE.

It is yet too early to estimate the loss of life and property caused by this sudden catastrophe. The official reports have already put the estimated loss of life at over 7,000. The number of injured is also large. The loss of property can be measured only in crores of rupees. The prompt and vigorous relief measures taken by the Government in co-operation with un-official agencies have largely prevented the danger of epidemics, which would otherwise have resulted from the scarcity of drinking water and lack of sanitation.

In the most affected area, the earthquake was attended by the appearance of large rifts or cracks at the surface. Some of these are one to two furlongs long and a foot or more wide. Through these were forced up soft, water-bearing sands and silts and spouts of water. Many wells have been filled with sand or have dried up.

In alluvial areas, the appearance of cracks attended by spouts of water and sand is a common phenomenon during earthquakes. As the surface waves travel along, the layers composing the alluvium are thrown into troughs and crests, soft silt and quick-sand being forced up along openings which might appear in the crests. When the water ceases to flow, crater-like openings are sometimes left in the piles of sand. As some of the layers are rich in organic matter—peat-beds and buried animal remains—they may be expected to yield hydrogen sulphide and hydro-carbon gases when suddenly exposed to the atmosphere. Waters forced up from depths of several tens of feet will also be warm when they first reach the surface. Reports of warm sulphurous waters (which, however, have not been subsequently substantiated) have led the people to a mistaken belief in subterranean volcanic action in this area.

In the Tirhut division the track of the Bengal and North-Western Railway has in many places been buckled, twisted or torn apart. Telegraph and telephone wires have been snapped. Several bridges and culverts have collapsed, and transhipment of passenger traffic has been necessary over several important bridges. In several towns, *e.g.*, Monghyr, Jamalpur, Purnea, Muzaffarpur, Darbhanga, Motihari, Sitamarhi, Samastipur, etc., most of the houses are in ruins. Some of these seem to have been almost

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