

SIGNIFICANCE OF A DECLINING DEATH RATE

(Abstract of Address by Frederick L. Hoffman, LL.D., Statistician of the Prudential.)

Mr. Hoffman discussed first the population problem of modern times, with particular reference to the rapid growth of modern nations and the increasing population density of civilized countries. He estimated the world's present population at 1,750,000,000, and the world's density of population at 34 persons per square mile. For Europe the density was given as 121; for Asia, as 57; for North America, as 15.

The present annual increase in the world's population was estimated by him as being about 13,000,000, or at the rate of 7.7 per 1,000. On the basis of all the available vital statistics for civilized and uncivilized countries, he estimated the annual rate of increase for the former at 9.3 per 1,000, and for the latter at 5.8; or for the two combined at 7.6, or practically the same as ascertained by census enumerations and supplementary estimates. This rate of natural increase, however, the speaker said, was likely to be increased by the effects of sanitary improvements, particularly in the case of uncivilized countries and primitive races.

DECLINE IN DEATH RATE.

He discussed in detail the decline in the general death rate during the last 30 years, and pointed out that the death rate for England and Wales had diminished from 19.4 to 14.7; that of the German Empire from 25.3 to 17.9; the Netherlands from 21.4 to 14.3; Sweden, from 17.5 to 14.3; and finally, of American cities (there being no corresponding data for the country as a whole) from 23.1 to 16.2 per 1,000.

For the registration area of the United States the death rate during the last decade had decreased at all ages, and for both sexes, below age 45; but at ages over 45 there had been an increase in the rate or males, and at ages 55 and over for females. The increase had not been alarming, but was suggestive in view of the observed decline in the death rate at the younger ages.

GENERAL IMPROVEMENT IN HEALTH CONDITIONS.

The decline in the death rate had been still more pronounced in the case of large cities, the rate having decreased, among others, for London, during the last 30 years, from 20.9 to 14.0; for Paris, from 24.4 to 17.5; for Vienna, from 28.2 to 17.0; for New York, from 27.5 to 17.0, etc. There could, therefore, be no question of doubt regarding a general improvement in health conditions throughout the world, and the observed facts seemed to warrant the obvious inference that with a diminishing death rate there was bound to be a further augmentation in the annual increase in the world's population. He gave some rather startling statistics of population growth for Europe and the United States combined during the last century, indicating a constantly increasing excess of births over deaths, regardless of a coincident decline in fecundity.

IMPROVEMENTS IN SANITARY CONDITIONS.

He dealt at some length with the improvements in

the sanitary conditions of uncivilized countries and the effect of the same on the rate of natural increase of primitive races. He discussed in some detail the sanitary progress of Formosa, the Dutch East Indies, the Straits Settlements, the Philippines, the west coast of Africa, etc. He also referred to the fact that the annual death rate of the city of Panama had been reduced from 122 per 1,000 in 1887 to 29 in 1912, and that the death rate of non-native officials in British Africa since 1905 had been reduced from 28 to 12 per 1,000.

Following these general observations, he discussed the reduction of the death rate by principal causes, chiefly the general epidemic diseases, malaria, cholera and plague, followed by special observations on yellow fever, typhoid and tuberculosis. He also discussed very briefly the causes of death at present on the increase in civilized countries, chiefly cancer, which he considered a world menace, deserving of more general interest than had heretofore been the case.

On the basis of the foregoing outline of facts derived from a careful analysis of available statistical information, the speaker discussed the modern problems of cellular pathology, the biological problems of age, growth and death, the economic importance of old age, the law of mortality, the control of the death rate, life tables, centenarians, the decline in the birth rate and its moral and economic consequences, the possibilities of future population growth in the United States and other countries, with a forecast for the next half-century, and the relation of such growth to the food supply, with observations on international crop statistics.

SPECIFIC RECOMMENDATIONS.

On the basis of the foregoing facts and observations, the speaker suggested the following twelve specific recommendations: (1) The importance of a rational conservation of the food-producing natural resources of the world; (2) the necessity for improved methods of agriculture; (3) the required reduction of economic waste; (4) the pressing need of rational town planning and improved methods of housing; (5) education in practical domestic economy; (6) rational social control of marriage, fecundity and divorce; (7) improved methods of general education; (8) the rational and effective physical training and supervision of the young; (9) the need of improvements in local health administration and rural hygiene; (10) the problem of modern life conceived as social service; (11) the economic utility of longevity; and (12) the supreme need of higher educational ideals.

TRUST COMPANIES' BILL.

The Banking and Commerce Committee at Ottawa has now finished with the trust companies' bill. Possibly the most important amendment passed at their last sitting was the making of the clause restricting the amount of paid-up capital which a trust company may invest in real estate to 35 per cent. and in securities of banks or companies to 25 per cent., and preventing loans of funds to shareholders, retroactive so as to apply in 1917 to all trust companies already incorporated. It was stated that if any special hardship occurred as a result of this clause, it would be easy to pass a special act to give relief.