

population in about 38 years. Should this rate of growth remain constant, the world's population will exceed 6,000 millions by the end of the century. Only a major—and, on the basis of all available evidence, unexpected—fall in growth rates can prevent a doubling of the world's population within the expected life span of the "teenagers" living in New Zealand today.

Historically considered, the unique aspect of the world's demographic situation is not the level of fertility, although the *world's* estimated birth rate of 34 may be lower than it was in past eras because of the rational control of fertility among the world's technically advanced, high income nations. The unique aspect lies rather in the gap between births and deaths, and therefore in the high level of natural increase, which has arisen from man's increasing capacity to prevent wastage through death. New Zealanders and most peoples of European origin take for granted an expectation of life of 70 and more years. We are surprised and shocked if a newly-born infant dies: we expect each infant to be cherubic, good natured and fat, and to survive with nothing worse than a few relatively harmless infectious diseases like measles and chickenpox until adulthood; and generally it does so.

Such expectations are unique in man's history. An expectation of life at birth much above 40 years was seldom if ever attained until about a century ago. Infant mortality rates (that is deaths of infants under one year of age per 1,000 live births) which are below 20 in many of today's advanced countries were still above 100 at the beginning of this century. Even our grandparents must have expected to lose some of their children through the "normal" process of death, and in New Zealand conditions three conceptions today can produce as rapid population growth as five conceptions did only 60 or 70 years ago.

In demographic as well as in political, economic and social terms, the expectations now taken so much for granted among the high income countries of the world are becoming the goals of the developing countries. Colonialism, however much to be deplored in most of its aspects, at least brought enough medical science and elementary health measures to start the process of control of the worst killing diseases of the world and to initiate the fall in the death rate, and consequently the rise in expectation of life. As each new nation has gained its independence, it has taken improved health standards and lower death rates as one of the basic human rights. No government today would dare to seek population control through higher mortality rates.

In some countries the process of declining mortality has been painfully slow, for example in India where the expectation of life at birth only a generation ago was about 30 years and today is estimated to be about 46 years. In others, however, the process of death control has been dramatic, with the expectation of life advancing from below 40 years to almost 60 years, all well within the life span expected by New Zealanders today.

The result of this revolutionary change in patterns of mortality may be summarised as follows:

(1) As the decline has seldom been accompanied by a simultaneous fall in fertility, the rate of natural increase has expanded, from a near balance of births and deaths (which was the predominant pattern of the western world until the 19th century and of much of the Asian world until after World War II), first to rates around 1 per cent a year (which was about the maximum European experience) and then to 2 per cent (as in India today and probably China) and even to more than 3 per cent (which is now common to many south-eastern Asian countries, the Pacific Islands and the New Zealand Maoris).