

crease or decrease the fraction over 65, and increase or decrease the median age in stable (and actual) age distributions. Fertility reductions can *only* increase the fraction over 65 and raise the median age. Except for the last two decades of experience in relatively advanced countries, the recorded declines in mortality have tended mostly to *decrease* the fraction over 65, and in an overwhelming majority of instances to decrease the median age. Recent experience in areas with the lowest mortality risks indicates a relationship that will inevitably become the universal one (if mortality improvements continue)—a rising fraction over 65 and a rising median age caused by mortality improvement.

ANSLEY J. COALE

• • •

VITAL TRENDS AND AGE DISTRIBUTION: AN ADDED NOTE

DR. Karpinos' recent note, "Age Distributions as Affected by Changes in Fertility and Mortality," invites further comment.¹ That stable-age distributions, "though theoretical, can be advantageously utilized in general discussions on the expected effects of mortality and fertility on age structures" is readily accepted, provided their limitations are also clearly in sight. Since such distributions are inherently long-run, they provide little information or even guidance on transitions. Yet our interest as often as not is focused on 15 or 30 year consequences; indeed, most problems which have led to the postwar reexamination of the relations between vital trends and age have had just such time spans in view.²

The more immediate reason for the present note is to correct an apparent misinterpretation by Karpinos of his data. The variations he shows in the stable-age proportion 65 and over for varying rates of increase and a fixed life table are, as he states, the results of fertility changes alone. It is not true,

¹ Milbank Memorial Fund *Quarterly*, January, 1957, 35, No. 1, pp. 95-96.

² See the sources cited in my "Mortality Declines and Age Distribution," Milbank Memorial Fund *Quarterly*, April, 1956, 34, No. 2, pp. 178-215.

however, that the indicated variations for a fixed rate of increase and varying life tables reflect "mainly changes due to declining mortality." Reference to his results shows that, for each rate of increase, the proportion 65 and over rises by about 55-60 per cent when the life table for Negroes is replaced by one for whites and by 35-40 per cent when the latter is replaced by the so-called hypothetical life table. Crude but undoubtedly sufficient calculations, using procedures developed in my paper, indicate that the increases would be well below 20 per cent under either substitution, provided that fertility had really stayed constant. The explanation for the discrepancies, of course, is that replacing a higher-mortality life table by a lower-mortality one, while keeping the rate of increase constant, really implies a decline in fertility.

In short, the proper conclusions from these pure illustrations are along the lines indicated by universal experience. The emergence of mortality, rather than fertility, as the predominant cause of aging has yet to be found in any substantial segment of the world's population.

Demographic predictions are perhaps best kept unvoiced these days but two seem to me sufficiently plausible to be hazarded. In the underdeveloped areas of Latin America, Africa, and Asia, fertility should be by far the most important determinant of such aging as will be encountered over the next century as a whole. Secondly, the reverse situation is likely to develop among Western populations, and this within the foreseeable future. The circumstances which could relegate fertility to a secondary role in these areas appear quite probable. On the fertility side, it will be enough if the trends neither move markedly upward nor decline to levels implying precipitous depopulation. On the mortality side, the thing to look for is whether percentage changes in Western survival rates are tending to an age pattern which departs from the traditional one. My expectation is that where such changes have typically resembled a "reversed J" in relation to age, those of the future should increasingly approximate a J-shape. Such a shift would imply very different effects on age composition from what we have seen in the past.

GEORGE J. STOLNITZ