

if methods of using capital goods that do not require advanced technology and could be produced at home were *in the end* to prove more effective (in promoting growth)" [p.15, Linder's emphasis] and "Yet it is noticeable that developing countries wish to use the most modern techniques in their investment programmes rather than simple techniques that could be introduced with domestically produced capital equipment" [p. 14]. But he does not conclude from this, as he should have done, that the adoption of production technique, without regard to the existence of domestic complementaries, may lead to a retardation of economic growth. Instead of drawing the above correct policy conclusion from his analysis, he proceeds to argue in defence of economic policies which may in the short run make the best of the earlier inappropriate choice of techniques without inquiring whether in the longer run, by distorting signals from the price system, these policies lead to further wrong choice of techniques. His policy recommendations may at best be considered temporary palliatives.

The existence of unused capacity because of the lack of imported inputs is quite common. Linder's argument correctly interpreted emphasizes the need to avoid this. The major policy issue is not a matter of making do with an inappropriate choice of technique, rather it is to set up criteria for choice of technique. Linder's introduction of the import requirements implied in a particular technique introduced into a particular economy is a step in the right direction, if it is interpreted as a constraint upon the choice of technique. It will be a step backward if the choice for technique is left to the prejudice of political decision-makers. I am afraid that, by showing how to make the best out of a bad situation, Linder's argument can become yet another obstacle in the path of the adoption of rational and successful policies for economic development.

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*The Demography of Tropical Africa* by William Brass, Ansley J. Coale, Paul Demeny, Don F. Heisel, Frank Lorimer, Anatole Romaniuk, and Etienne van de Walle. Princeton, New Jersey: Princeton University Press, 1968. Pp. xxiv + 540.

This book is a fascinating "who done it" and a thriller of the first order. That is if one has the stamina and the equipment to work one's way through it. Your reviewer considers himself a trained demographer and comes out of possibly the most rigorous demographic school. He was an Africanist for many years. He worked with one of the main techniques employed in this book for ten years and was familiar with another group of methods used by the authors for fifteen years. Yet he found it tough going. The book is long and difficult. One wonders who will be the readers.

For the development of demographic techniques the authors do things: they use to the full the available age distributions and other related in order to apply the stable population theory and show its usefulness; second they develop a large number of ingenious tricks of trade which enable them support conclusions flowing from the application of the stable population theory and develop mutual strength for the outcome of the analysis. Again the readers of this journal will recall what a powerful influence Coale and his school had on the progress of Pakistan demography. African populations are even more amenable to treatment under the theory inasmuch as their fertility and mortality schedules were fixed in the past more certainly than those of the Pakistan populations and were exposed to proportionately smaller external migration movements than Pakistan. In instances where any of the conditions do not hold, the means are developed of tracing, for example, presumably declining fertility through reported parities increasing with age and derived from recollection of older women. On the mortality side, and again only as an example, it is shown how deceptive a well-shaped U-curve can be if based on misreported ages in the denominator and misreported deaths by age in the numerator. But there is no point in trying to recall the richness of this book in a short review.

To the taste of this reviewer too much is made of fine differences in age patterns of mortality, sometimes almost suggesting that they affect the stable distribution, surely a cardinal sin in the Princeton stable. The one serious quarrel which this reviewer has with the book is the emphasis on age misstatement and the almost complete disregard of the possibility of age and sex-selective underenumeration. The anomalies of the age distributions are almost the same as those of the U.S.A. distribution but are more pronounced. In Coale's famous article of 1955, which revolutionized our thinking about census distributions, the parts bitten out of the age distribution curve were census omissions. In Africa they are age misstatements. This makes for a cleaner analysis but requires sometimes strenuous gymnastics to make all the pieces of the curve internally consistent. Instead of being open all time to all the possibilities, the authors prefer to say that the usual shortages of women centered on ages 10-14 and the usual shortages of men centered on ages 15-19 are due to some tendency to make some of them younger and some older. The details of the argument are usually ingenious, sometimes contradictory. It always leads to forcing the reported population size under a stable curve, however chosen, and what is the violence to the facts. Lifting the curve a little bit would often be equally satisfactory and would in the process remove some of the other anomalies.

price of such a procedure is a higher degree of arbitrariness, but the final result would be more realistic and at least as plausible. It would provide not only estimates of fertility and mortality, but also of size, and as such also a base for population projections. The authors have written only "The Half-Demography of Africa".

For census takers several useful lessons emerge and it is to be hoped that census planners for the 1971 Census of Pakistan will take them into consideration. Some of them are: data in its raw, unadjusted form should be made available. Demographic analysis suffers to this date from the smoothing of age distributions in India in 1931. An Indian demographer wrote a whole monograph in the attempt to unscramble the damage then done. It is to be hoped that researchers will treat the unadorned data with greater circumspection than some of the authors of this book did with their material. A census taker aware as nobody of the shortcomings of his data and feeling virtuous by making it available to researchers in "uncooked" form must have bitter thoughts when a slick researcher at the end of his findings suggests that the census taker was taking his rates and ratios literally. The unintended results which flow from attempts to counteract known tendencies of the population or of the enumerators have already been mentioned. Small intensive, sampling enquiries seem to be producing higher quality results than large-scale, so-called full-count censuses. Limited personnel resources can then be concentrated on a wider variety of questions requiring training and attention to detail. There are, of course, advantages (the whole is greater than the sum of the parts) if the small intensive enquiry is launched on the vehicle of a national census.

However, these are incidental findings. The main strength and significance of the book lies in the outstanding addition it makes to the arsenal of demographic tools, even if somewhat specialist and limited to countries with peculiar data. On the substantive side, the white areas waiting for their demographic Livingstones have now been limited to Ethiopia, Somalia and Djiboutti.

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