
JONAS SALK
AND
JONATHAN SALK

WORLD
POPULATION
AND HUMAN
VALUES

A NEW REALITY

World Population and Human Values

A New Reality

JONAS SALK
and
JONATHAN SALK



1817

HARPER & ROW, PUBLISHERS, NEW YORK

Cambridge, Philadelphia, San Francisco, London, Mexico City, São Paulo, Sydney

WORLD POPULATION AND HUMAN VALUES. Copyright © 1981 by Jonas Salk and Jonathan Salk. All rights reserved. Printed in the United States of America. No part of this book may be used or reproduced in any manner whatsoever without written permission except in the case of brief quotations embodied in critical articles and reviews. For information address Harper & Row, Publishers, Inc., 10 East 53rd Street, New York, N.Y. 10022. Published simultaneously in Canada by Fitzhenry & Whiteside Limited, Toronto.

FIRST EDITION

Designer: Sue Crooks

Library of Congress Cataloging in Publication Data

Salk, Jonas, 1914–

World population and human values.

Bibliography: p.

1. Population. 2. Population—History. 3. Social problems. 4. Human ecology. 5. Values. I. Salk, Jonathan. II. Title.

HB871.S17 1981 304.6 79-1683

AACR2

ISBN 0-06-013778-9

81 82 83 84 85 10 9 8 7 6 5 4 3 2 1

ISBN 0-06-090907-2 (pbk.)

81 82 83 84 85 10 9 8 7 6 5 4 3 2 1

Preface

This book originated in a request my father received for a commentary, from his point of view as a biomedical scientist and author, on United Nations assessments and projections of world population trends. He assembled a graphic summary of the data and added material based on his earlier book, *The Survival of the Wisest*.^{*} The result was a brief report in the form of a pictographic essay. A copy of that report was submitted to Harper & Row, who expressed an interest in publishing it as a book.

I first became involved in the project when he asked for my comments. When I told him of my reactions he encouraged me to try my hand at strengthening the report with the intent of making it into a book. In my first efforts, I completely reworked and restructured the original manuscript. The length and tone of the version I produced, however, did not fit with the original concept of a short, graphic piece intended to be used to convey information quickly and effectively. Over a period of many months, we reconciled these different approaches in a way that retains the best elements of both styles.

Our collaboration is one example of the process of divergence, convergence, and reconciliation discussed in this essay. We, two people from different eras, parent and child with much in common, yet also with different points of view and aesthetics, have worked together toward a common goal. It is our hope that this has resulted in a book more useful to the reader than either of us would have produced alone.

JONATHAN D. SALK

^{*} Jonas Salk. New York: Harper & Row, 1973.

Acknowledgments

We would like to acknowledge the very valuable assistance of MaryEllen Diefenbach in the early stages of this work and the patient, competent, and supportive help of Barbara L. Robinson in the assembly of the graphs and text.

Thanks are due to the United Nations Fund for Population Activities (UNFPA) for its generous support and to the United Nations for allowing us the use of its libraries. We want also to thank Rafael Salas, Tarzie Vittachi, and T. N. Krishnan of the UNFPA—Dr. Salas for his confidence and affirmation, Tarzie for moral support, suggestions, and encouragement throughout, and Dr. Krishnan for providing valuable suggestions about the presentation of several key ideas. Shunichi Inoue, Chief of the Estimates and Projections Division of the United Nations, kindly supplied unpublished data on long-range projections. Carl Haub of the Population Reference Bureau made a number of suggestions on our discussion of the demographic material, and though he should not be held responsible for our final presentation, we are very grateful for his comments.

We also acknowledge the invaluable contributions of many friends and colleagues who read and commented on the manuscript in its final stages.

Of the many at Harper & Row who patiently made our manuscript into a book, we would like to thank those with whom we have had personal contact: Cass Canfield, Jr., Lydia Link, William Monroe, Pamela Jelley, and, especially, Frank Ronan, who painstakingly prepared the graphics to our specifications.

Personally, our deepest thanks must go to the following who, at various times provided advice, intellectual challenge, moral support, and meals: Françoise Gilot, Elizabeth Moore, N. Jamás, and Peter, Darrell, and Donna Salk.

Note

Preparation of the report upon which this book is based was made possible by a grant from the United Nations Fund for Population Activities of the United Nations Secretariat.

Introduction

Collectively and individually, we are at a critical time in human history and human evolution. The crisis is evident both in the commentary of contemporary writers and thinkers and in the personal experience of people throughout the world. It is apparent in the rate of population growth, in exploitation of natural resources, and in the widespread occurrence of social and political disturbances. Nations and individuals are experiencing an increase in internal and external tensions and conflicts. Conversely, there is a growing awareness of trends toward greater understanding and cooperation, toward peaceful rather than war-like resolution of conflicts, and toward a deeper awareness of the subtleties of physical, biological, and human nature.

In this brief volume we offer a perspective to provide understanding of the perplexing nature of our time. Through a discussion of world population trends and changing human values, three ideas will emerge: one, that although disaster threatens, its avoidance is possible; two, that we possess the capacity to meet our present problems and to resolve them humanely; and three, that changes have already become evident, both in world population growth and in human values, that point toward a positive outcome of this crisis.

We have focused on world population for a number of reasons. First, the request for a report on which this book is based came from the United Nations Fund for Population Activities (UNFPA), which asked for a commentary on United Nations projections of population growth. Second, the rapidly increasing world population is a basic and powerful force in the world today and it is important that we be aware of long-range trends and understand the forces

underlying population's explosive growth. Third, demographic data provide a basis on which to discuss the relationship between changes in population growth patterns and changes in human attitudes, values, and behavior.

Even though they are but part of a larger complex of social, political, economic, and cultural factors, we have focused on value changes. A great deal of attention has been given to the forms of large social structures, and they are, of course, important. However, cruelty, exploitation, and repression, as well as humane behavior, mutual collaboration, and freedom, have all existed in a variety of social and political settings. It is our intent to focus primarily on change and evolution of fundamental values and attitudes.

The basic image used in this essay is the sigmoid growth curve. It represents a general pattern of change that is seen in many physical and biological systems: a pattern of progressive acceleration changing to progressive deceleration, culminating in dynamic equilibrium at a steady-state plateau. Though we focus on the recent acceleration of population growth, similar trends have been apparent in consumption of energy, in rate of growth of scientific knowledge, and, as many people feel subjectively, in the rapidity of change in personal and social life. In this discussion, we apply the image to population and then to changing human attitudes, values, and behavior; however, some readers will undoubtedly see ways in which this curve is applicable to other areas of change in human relationships and experience.

Many books and essays have appeared in recent years that describe from other points of view the same phenomenon of epochal transformation. Although our focus is on world population and human values, this work is conceptually related to others that have focused on energy, technology, economics, and politics. The perspective offered in this essay is, we believe, complementary to and a natural extension of these.

This is a personal essay; we are not scholars in demography or in human behavior. We have attempted to present the population picture accurately and to interpret the data responsibly. In the course of the essay, we have necessarily touched on knowledge and ideas that fall in the areas of evolutionary theory, sociology, anthropology, political science, economics, ecology, as well as demography. Since we are not specialists in all these areas, we may occasionally have made statements that will be considered overly simplified to those more knowl-

edgeable. If we have, we apologize in advance and hope that we have not misled the reader nor have obscured the main ideas of the essay.

The reader may note a paucity of specific, topical examples. The first reason for this is that, in order to keep the book light and brief, it was undesirable to include extensive discussion of specific issues. A further reason is that specific references to current issues tend to trigger a chain of associations and emotions in the reader that might obscure the point intended. Since our purpose is to look at underlying processes, we have deliberately tried to avoid evoking such responses by being judicious and sparing in the choice of examples.

The form of the book is different from most. It is a "pictographic essay"—a kind of slide presentation contained within the pages of a book. Although we sometimes found this form constraining in the preparation of text, it has, on the whole, allowed for a clear presentation of the population data, which forms a major part of this book, and of the discussion of changing human values, which requires the visual image of the sigmoid curve. Through a series of pictures, supplemented with text, information is made available to those not ordinarily exposed to the data and ideas presented here.

The book is divided into five parts. Part I introduces the sigmoid curve. In Part II, demographic data are presented revealing the emergence of an epochal change and a new reality of world population trends. In Part III, we introduce the concept of two distinct epochs in history—a time of progressive acceleration of growth, and a time of progressive deceleration—and we discuss expected differences in human values between the two periods of time. In Part IV, we consider some of the conflicts and paradoxes inherent in the change of values, and in Part V, we discuss the convergence and reconciliation of divergent trends that can be anticipated to occur in the decades to come. In order to maintain the flow of the presentation, citation of sources for the population data and for relevant textual material are omitted from the body of the book and are contained in a separate section.

Few can meaningfully interpret the past, and no one can reliably predict the future. In this short essay, we provide a long-range perspective, including past and future, that we hope will be helpful in comprehending the forces and trends that underlie the present period of crisis. If we are able to provide, for

• some, a deeper understanding of the present and some glimpse of the future, our purpose will have been served. If, in addition, we provide reinforcement for those who feel, in spite of indications to the contrary, that there is, within the nature of human beings and within the human mind, the capacity for responding to present crises with the creation of a healthier, more humane, and more satisfying future, our deeper hopes will have been fulfilled.

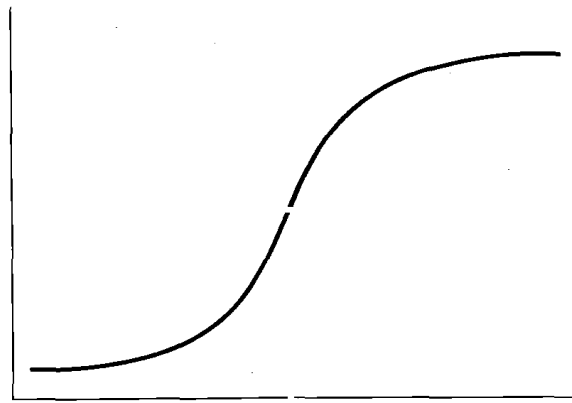
Contents

Preface	xi
Acknowledgments	xiii
Introduction	xv
I Sigmoid Curves	1
II World Population Trends	25
III A New Epoch	71
IV Paradox and Conflict	99
V Reconciliation	121
Epilogue	163
Notes	165
Related Reading	169

PART I

Sigmoid Curves

In this essay, the sigmoid curve will be used as a “thinking tool” and as a symbol. Its shape reflects a law of nature that governs growth in living systems, and reflects the transformational character of change in our time.

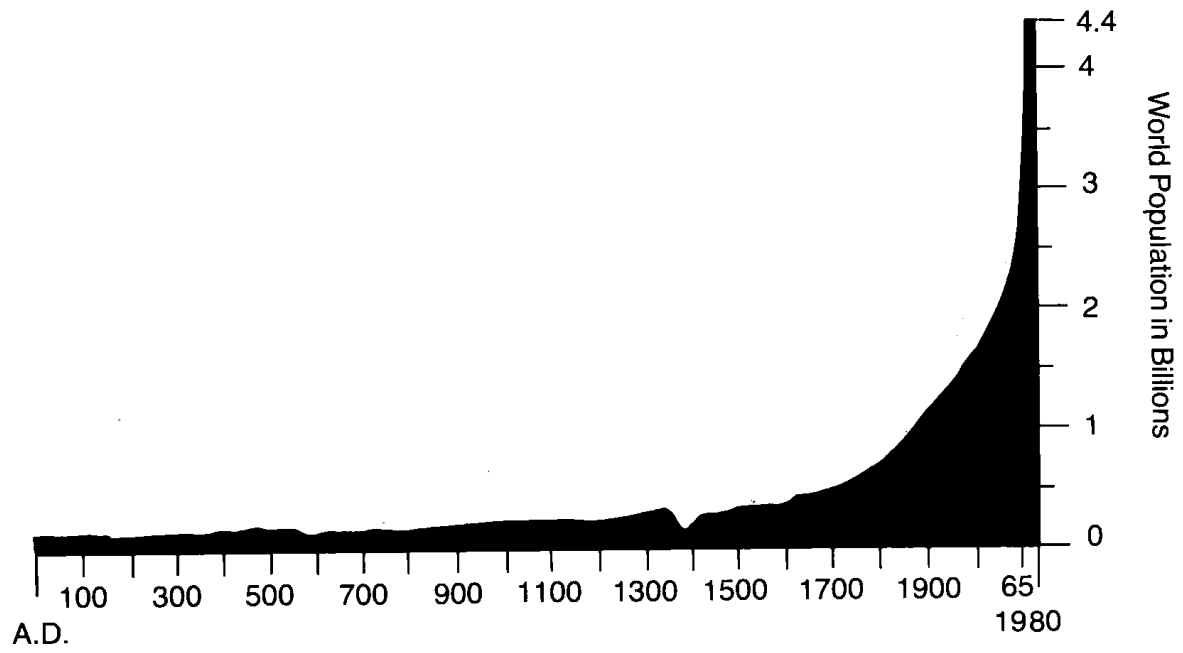


In this figure, and in those that follow, the horizontal axis represents time and the vertical axis represents number. In the first, upturned portion of the curve, population growth follows a pattern of acceleration; in the second part, growth decelerates and a plateau is reached. The gap in the curve emphasizes the point of inflection—the point of change from accelerating growth to decelerating growth.

In Part I, through examples of animal and yeast populations, we will introduce this curve.

From the beginning of the Christian era, the size of the human population grew gradually for about 16 centuries and then with increasing speed through the nineteenth century. This gradual but progressive acceleration was followed by a sudden steep rise in the twentieth century—a consequence of the scientific-technologic-industrial revolution, which has had the effect of making it possible to sustain a human population far larger than ever before.

FIGURE 1



The sharp increase in the size of human population in recent times, as seen on the preceding page, has raised the reasonable question, “Will the curve continue to rise at its present rate, will it crash, or will it bend and assume a sigmoid shape?” The question and the alternative answers are implicit in this picture.