Lynton Keith Caldwell

BIOCRACY

Public Policy and the Life Sciences

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Biocracy: Public Policy and the Life Sciences

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Biocracy: Public Policy and the Life Sciences

About the Book and Author

Biocracy, a term invented by physiologist Walter Bradford Cannon, refers to the influence of biological science on society and its public policies. Beginning with the prophetic essay "Biopolitics: Science, Ethics, and Public Policy," this book addresses various aspects of the relationships among the life sciences, society, and government. Included in the topics considered are some of the more critical issues of our time: the social responses to life science innovations; health and homeostasis as social concepts; the relationship between history and biology and that between the life sciences and the law; biocratic interpretations of ethical behavior and biopolitical conflicts; and the options, risks, and international consequences of biotechnology.

Caldwell's book is a collection of articles that he wrote on this subject over a period of twenty-five years. Of the ten chapters, four have previously appeared in scholarly journals but have undergone extensive editorial revisions appropriate to this publication. The remaining six chapters have been presented at various professional meetings but have not hitherto been available in print.

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Preface

A brief indication of the author's intent may be helpful to readers of this book. My intent is to raise public awareness of a large and complex body of concerns regarding advances in biotechnology and the life sciences generally. The chapters that follow show in different ways how biology is affecting popular beliefs and behaviors and is therefore becoming a force in public policy. The term *biocracy,* first used (I believe) by Walter Bradford Cannon, has been taken to represent the power of life science knowledge in modern society. These essays were written to help the reader see the presence of this force in today's world and realize why the influence cannot be suppressed and must rather be understood. So that the reader will not be misled, I'd like to make clear what the book is and is not.

Biocracy is a collection of essays written over a period of twenty-five years, beginning in 1963 (chapter 1) and continuing to the present (chapter 10). The essays have all been updated and revised, and not one is in its original form. The earlier essays have not lost their relevance over the years because although biopolitical issues have multiplied, the related questions of values and policies remain largely unresolved. The book is intended primarily for the general reader but may also be of interest to scientist and expert. Each essay is in essence a different version of a common message: Advances in the life sciences are bringing about social changes and conflicts that, in the interest of human welfare now and in the future, should receive more serious and widespread attention than is presently evident. This proposition will be obvious to some people who see the book. As yet, however, it seems far from apparent to most people, many of whom see the issues discussed in these essays as unrelated to one another or to the encompassing larger issue identified here as biocracy.

The chapters do not form a progressive sequence of conceptual development, from first to last. Each essay stands largely upon its own argument, although some cross-referencing does occur to avoid unnecessary repetition. Certain concepts and attributions are nonetheless repeated in various chapters because they are basic to the development that is represented by biocracy. These references are relevant to different aspects of the influence of the life sciences and biotechnology. Their

recurrence is therefore not repetitious, but rather a recognition of the multiple channels through which these influences reach society. In rereading these essays, which span a quarter century, I found that, in principle, no really great changes had occurred in the policy situations described. Major advances had occurred in biology and biotechnology, but as of 1987, changes in public attitudes and legal response were only beginning to appear.

Notes at the ends of the chapters have been provided where sources for verification or additional information seemed useful. For the most part the original notes and citations have been retained. They show that many of the ideas currently in controversy are not new. They do display a historical record of the "biopolitical movement" as we may identify it in retrospect. Pertinent references have been updated and expanded but left intact where little would be gained by their replacement. The separate character of the essays (or chapters) made provision of an index impractical.

This is not a book about biology or biotechnology per se. Its subject matter is their influence. The subject could be approached by several different routes (for example through adjudication; legislative action; or biopolitical issues such as genetic engineering, reproductive biotechnology, or research in molecular biology), and several books could be written on biopolicy with no great amount of overlap in illustrative material. An effort has been made, so far as possible, to avoid repeating what has already been written. References to bibliographic and periodical sources of this larger literature will be found in the notes to the chapters.

This is not a book of advocacy beyond its argument for informed attention to the social significance of developments in the life sciences. It does not fall into the error of "biologism," which is the belief that all human behavior may ultimately be traced to biology. In controversies over the uses of biotechnology, my position for the purposes of this book is largely neutral. It is not neutral with respect to the need for informed rationality and a regard to consequences in the consideration of disputed courses of action. Nor is it neutral with respect to fraudulent or demonstrably abusive use of life science knowledge. Yet there are sincere and deeply held differences among people over the ethics of biological theory and practice. This book points out the political relevance of these differences, but it is not its function to analyze them in depth nor to ascertain the right or wrong of their contentions.

I do not offer detailed description of the laws, regulations, or institutional arrangements relating to biotechnology and the life sciences. Where needed, these provisions are noted or referenced, but to treat them thoroughly would have greatly lengthened the book and distracted the reader from its main theme. Moreover, present legal and institutional

provisions are likely to be short-lived, to be superseded by other regulations and arrangements in the relatively near future.

Biocracy is truly an incontrovertible fact of life. Knowledge about life will increasingly affect the actual lives of people as individuals and as societies. It is in the interest of people everywhere to recognize that life science knowledge is changing their lives and their world and to respond to this realization in an informed and intelligent manner.

Lynton Keith Caldwell

Acknowledgments

Some of the chapters in this book were initially published in journals; others were presented at meetings of professional societies but not heretofore published. Most have been substantially revised and, where necessary, updated. They are not reprints, although portions of them are partially identical with the originals. The first chapter, "Biopolitics: Science, Ethics, and Public Policy," which was written in 1963 and published in 1964, has been regarded as "prophetic" but required only minor changes to make it as applicable in 1987 as it had been in 1963. I interpret this to indicate that ideas in advance of their time in 1963 are coming into phase with intellectual developments in the late 1980s. Shortly after publication of that article in the *Yale Review* in 1964, a prominent publisher suggested that I write a book-length treatment of the subject. I did not then think that the time was right nor that I was ready. Today I believe that if the time of public acceptance of the thesis of the book has not yet arrived, we are much closer to it than we were a quarter century ago. Perhaps the book at this time may make a difference.

I would like to express appreciation to those persons who helped prepare the manuscript: Kay McCrary, Melissa Striegel, and Karen Kurfirst. Gratitude is also due the staff of the Indiana University Library system and to Robert H. Blank, Thomas C. Wiegele, and Raymond A. Zilinskas, with whom I considered many of the issues addressed in this book in a workshop on "Biotechnology: Public Policy and the Social Sciences," sponsored by the Institute for Advanced Studies at Indiana University in October and November of 1986.

L. K. C.

Biocracy: Public Policy and the Life Sciences

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Biopolitics: Science, Ethics, and Public Policy

Some years ago a front page column of the now defunct *New York Herald Tribune* carried a whimsical description of a new science of *biopolitics.*[1] The sensitive reader might well have been as distressed as amused by the wry humor of the columnist. J. P. Miller, already secure in his reputation for social criticism through satire in *Days of Wine and Roses,* recounted an imaginary interview between an official government biopolitician and a newspaper reporter regarding the meaning of a "new science." The episode was in fact a miniature morality play—an allegory intended to pose a distasteful question in a palatable manner.

Defined by Miller, "biopolitics is the science of proving that what must be done for political reasons is biologically safe for the human race." The reported interview occurred sometime after 1971 when the collapse of the nuclear test ban treaty had been followed by a resumption of massive testing in the atmosphere and rising levels of fallout. In order to relieve popular fears, prevent panics and antigovernment demonstrations, official biopoliticians "proved scientifically that the previous human tolerances to radioactivity and all other by-products of nuclear testing, including strontium 90, had been estimated far too low." The official pronouncement "had a wonderful calming effect on the people." Public confidence was restored.

"But," asked the reporter, "suppose that an increase in bone cancer was being caused by heavy concentrations of strontium 90 in human and animal marrow?" Some unofficial scientists said so. But the official biopolitician replied that statements which frightened people were certainly not in the public interest. "Bone cancer and strontium 90 could not be linked," he declared. "The people wouldn't like it. Therefore, by

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Revised and extended from an article under the same title appearing in the *Yale Review* 56 (October 1964): 1–16.