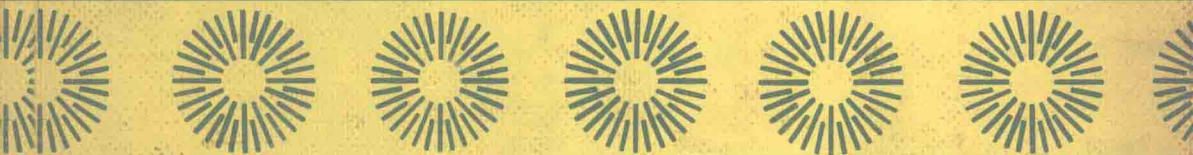


Science and Morality

**Doris Teichler-Zallen
Colleen D. Clements**



Lexington Books

Science and Morality

New Directions in Bioethics

Edited by

Doris Teichler-Zallen,
Nazareth College of Rochester

Colleen D. Clements
University of Rochester
School of Medicine

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Preface

Scientific developments of the last thirty years, and especially the last ten, have had a tremendous impact within the scientific community and have raised major ethical, moral, legal, and political questions for the whole of society. These questions have arisen in basic research areas and in actual clinical practice. Recombinant DNA is the prototype of an area of basic research in current biological science that is a focus of such concern. Ethical aspects have always accompanied the healing arts of clinical medicine, an activity that is an applied science rather than a basic one. Recent advances in medical research, however, such as in vitro fertilization and techniques for prolonging human life, have particularly heightened the ethical issues. Yet despite the very great need, few mechanisms currently exist for a creative interaction involving the various groups whose participation would be crucial in meeting these new problems and challenges.

To provide a forum for such an interaction, Nazareth College of Rochester instituted a unique series of conferences with the title: Science and Morality—A Dialogue between Scientists and Moralists. The first conference was held in the spring of 1979, and two others have taken place annually since then. In designing the programs, considerable emphasis has been given to establishing communication between the disciplines and to achieving a balanced interdisciplinary approach. The scientist participants were contributors to their fields who had also previously addressed ethical issues. The ethicists (philosophers and theologians) were already familiar with scientific literature and terminology. This assured that actual dialogue and relevant discussion could take place. Attention to accurate assessment of the scientific and clinical foundations also allowed the unrealistic outcomes, or scenarios that are more science fiction than science and that only create confusion, to be ruled out. The audience was composed of individuals of diverse backgrounds and interests and included members of academic and medical school communities, theologians, lawyers, medical practitioners, and the general public. Such a melting pot of interests and expertise served to encourage open and informed discussion.

The collected papers from the three science and morality conferences form the chapters of this book and have been combined and divided into three parts. The introduction serves as an overview of the field and the parts that follow focus on issues relevant to a specific phase of the life cycle. Part I deals with those issues involving reproductive choices and genetic knowledge, such as genetic counseling, in vitro fertilization, and recombinant DNA technology. Part II is concerned with chemical and behavioral modification and environmental issues. Part III is devoted to euthanasia, suicide, and hospice-movement issues. Introductory comments preceding

each part have been included to provide a background in scientific terminology and ethical analysis that we hope will be helpful to nonspecialists in these areas. These comments represent the judgment of the editors, who are solely responsible for any errors or inadequacies contained herein.

We are grateful to the faculty, staff, and students of the Nazareth College community whose commitment and cooperation have made the conference series so successful. President Robert A. Kidera has been a continuing source of encouragement and support. Sr. Marion Hocter, Robert McCambridge, Richard Matzek, and Conference Secretary Barbara Dinse have provided invaluable aid in planning and conducting the conference programs. Grants from the Gannett Foundation and the New York Council for the Humanities have enlarged the conference activities and allowed all the sessions to be open to the public at no charge.

These conferences and this book would not have been possible without the efforts of the Conference Organizing Committee: in addition to the editors of this book, Sr. Therese Lang (chairman, Chemistry Department) and William Shannon (chairman, Religious Studies Department). These two colleagues shared in structuring the conference issues, selecting the best participants to deal with these issues, and making this discussion of bioethics easily accessible to the community. Their hard work, enthusiasm, and creativity contributed greatly to the success of the conferences.

Special appreciation is due our colleagues who were generous with their help in the preparation of this collection—Richard Doherty and Richard Zallen for their important comments on content and organization, Sr. Magdalen LaRow for preparation of illustrations, Sr. Margaret Teresa Kelley for editorial advice, Jay DiGaspari for typing and correcting the manuscript, and Darcy Clements and Irmhild Zimmerman for secretarial assistance.

The Nazareth Conferences on Science and Morality will continue, bringing together scientists, clinicians, and ethicists who make an attempt to articulate the values of science and to clarify human purposes and choices with the goal President Kidera stated when he opened the first conference in March 1979—that we all “might know more clearly, understand more fully, and decide more wisely.”

Introduction: The Direction of Bioethics

We are in the second generation of bioethics, as one of the pioneers in the field observed, and the second generation always has an identity problem. "Science and Morality" is the identity problem. It is a way of describing the field of bioethics—the combination of the life sciences and ethics—but the goals and methodology of this combination need to be made clear. What seems like an easy coupling of words is not as understandable as the first generation of bioethicists' thought. Is bioethics a specialty within ethics, or within science, or both? Is it primarily concerned with developing ethical tools? With, for example, practicing good clinical medicine? Or with developing some mixture of both skills? And to what purpose? This last question is a crucial one for bioethics, but its answer is not at all obvious.

We intend *science and morality* to be an interdisciplinary statement primarily concerned with scientific value systems and the development of a modern ethical theory to articulate those systems, and always with the goal of benefiting individual human beings. There are alternatives. We could see *science and morality* as a statement about social goods or concerns, the apportionment of resources, the assessment of collective risks, the realities and ideals of power. We could regard it as a theory about the search for a just order or the recognition of principles. We could see it as responsible for refining terminology and being clear about word usage.

We leave to the reader, and the future development of bioethics, the task of determining which of these alternative meanings for this statement can be the most relevant and productive. The collected chapters in this book may vary in their emphases, but to some extent they represent a choice: that science and morality is a statement about unity, not dichotomy. In medical ethics, for example, the purpose or goal is the patient's well-being and thus represents an expression of the value system of medical practice. In environmental ethics, the goal is the use of scientific technology for the welfare of individual citizens and an expression of the value system of technology.

Bioethics, then, is interdisciplinary, but there are different approaches to achieving the desired interrelationship between science and morality. In one approach, an established tradition or discipline such as ethics, with its own assumptions and methods, examines biology or biochemistry or medicine; identifies what, from its viewpoint, it considers to be major problems; and calls into question certain aspects or applications of the scientific or medical fields. The scrutiny proceeds in only one direction. The corpus of science or medicine critiqued is not permitted to call into question any

aspects of the field of ethics. Much of the current literature assumes this one-way form, and it is often provided by professional humanists and ethicists with little or no hands-on experience in science or medicine.

In a second approach, individuals who perceive internal conflicts and contradictions in science or medicine use tools from other disciplines (for example, ethics, theology, sociology, and so on) to advocate a radical change in the scientific system. They have already identified what they feel are problems, already have a programmatic change as their goal, and attempt to validate this goal by the use of another field's assumptions and methods. The scientific area being critiqued has already been judged to be in need of radical change, and the assumptions and methods of the discipline used to justify the change are, once again, unquestioned. This approach is often used by professional scientists or physicians who have a knowledge of the second discipline. Like the first approach, this one is essentially unilateral in its stance.

A third alternative, and one that we feel is the most fruitful, resembles the great interdisciplinary sciences (for example, biochemistry, biophysics, and molecular genetics) in that the assumptions and methods of one discipline are not imposed on the other but each field is, instead, open to question and modification by the other. The direction of change (and, we hope, progress) goes both ways. Neither field's foundations emerge unchanged as a result of the union. Workers in such an interdiscipline need to adequately understand both fields, if not specifically and in a highly specialized way, then certainly foundationally. It is not necessary, for example, to know every citation in a review article on utilitarian theory, but it would be necessary to be able to group these positions under more fundamental headings and to know what has to be assumed to make any of the structure stand. It is not necessary to know how to perform an autopsy on the abortus products of a trisomy-detected pregnancy, but one does have to know what the pathologist is looking for to confirm the diagnosis and why that is important for the parents who choose to abort. The result of this real interaction should be an ethics and a science that change with each other and produce a new field, providing contributions that cannot yet be anticipated—not an exegesis, not a political reform, but an interdiscipline.

This final sense of interdiscipline is the primary rationale for this book by experts involved in the field of bioethics. We have tried to structure opportunities for questioning and modification among experts who have familiarity with both science and morality and who hope to make the sort of advance that genetics made when it combined the Mendelian laws of inheritance and the concept of evolutionary change with the knowledge of biochemistry of the genes to arrive at that promising and rapidly expanding interdiscipline of molecular genetics.

The introduction, by Charles Curran, provides an overview of the field.

Curran, coming from a long tradition in ethics-morality, presents a modern interpretation of morality based on the natural law position. According to his position, God's preordained plan for the universe is known to us provisionally, not with intuitive certainty, because of our imperfections and lack of omniscience. We do the best we can in discovering this plan, have faith that it is there to be found, and use our best knowledge of this natural law to consider issues of concern in science and medicine. Curran identifies what he considers those issues to be and how best to address them. He identifies the ethical assumptions, the ways of framing questions, and suggests what he feels are the best approaches. The consideration of medical issues leads back to an examination of the ethical perspective and to suggestions on how best to interpret that perspective: "Interdisciplinary dialogue about science and technology affords theological ethics an opportunity to critically examine some of its own concepts." While, from the theologian's perspective, natural law is not altered, examination of its application to medical problems can result in new interpretations that grow from experience with such application.

The interaction can proceed in the opposite direction as well. Medicine can be seen, not as primarily a technical profession but as it is ordinarily practiced, a moral endeavor, since its concern is with the welfare of the person. Medical ethics problems are not framed in terms of the moral versus the scientific but rather in terms of the moral and the scientific. All clinical judgments are moral judgments intrinsically. Because medicine is a human intervention or raises the choice of intervening, and because it usually involves alternative ways of intervening, the ordinary issues of case management are usually issues of value choices. Medicine can be viewed then as applied ethics, and ethics can be approached in the same concentrated, empirical way that has led to the continuing increase in medical and scientific knowledge. Medicine is ethical behavior, but it is sometimes uninstructed ethical behavior. What medical ethics, relevantly developed, can do is to make that behavior informed and explicit. The several physicians who have contributed to this book demonstrate this third sense of interdiscipline.

It is the ability to modify or even radically change paradigms that characterizes science. There are times when the facts just will not fit, the explanation falls flat, and a reevaluation is in order. If bioethics is to be interdisciplinary in the sense we have suggested, it will need to somehow incorporate this methodology; and here is a major problem. Ethics has usually been viewed as conceptual or *a priori* and not empirical, as "ought" and not "is." One of the challenges of this sense of interdiscipline will be to show that values can be derived from facts and that facts are value laden.

For science and ethics to work together, then, we need to put aside two-handed thinking: on the one hand, science or medicine; on the other

hand, ethics. The possibilities of a bioethics interdiscipline present some important, fundamental issues. These issues reappear throughout the chapters of this book, as specific challenges raised by scientific and medical advances are discussed.

Science and Morality

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1

Science, Morality, and the Human Future

Charles E. Curran

The context of an interdisciplinary symposium on science, morality, and the human future explains the purpose and outline of this book. This chapter approaches the question from the perspective of Christian theological ethics in the Roman Catholic tradition. Since this chapter is the opening presentation, the first section describes some of the questions that are discussed later in greater detail. However, the primary purpose of the first section is to explain why these problems have come to the attention of our society. The second section, from the perspective of Christian ethics, proposes an approach for understanding and evaluating science and technology in relation to our human existence. The third section considers some important concepts in Christian ethics and how they shape an approach to the question of science, morality, and the human future. These concepts are not static but are very much influenced by experience and ongoing dialogue.¹

The Problems: What and Why

This section surveys some of the problems and questions that are discussed in greater detail in the course of this book. Above all, this discussion focuses on an attempt to explain why these problems have arisen and become so acute today. The major contention maintains that these questions have arisen because of the tremendous advances that have occurred in science and technology. Science is understood in the broader sense of the empirical knowledge of the human; technology is defined as applied science by which human beings are able to control and influence human existence. Human beings have a greater power than ever before to control and influence their human existence because of the advances in science and technology.

Great progress has been made in medical and genetic knowledge and their technologies in our own lifetimes. Consider the phenomenal progress in the one area of drug therapy: The antibiotics, the antihistamines, and the psychoactive drugs, three of what are now the eight major classes of prescribed therapeutic drugs, were unknown forty years ago. The sulfas and the vitamins, two other major classes of drugs, were introduced between

the two world wars. Barbiturates and hormones were discovered somewhat earlier in the century. Before this century only narcotic drugs were known but today's representatives of this class, with the exceptions of morphine and codeine, are recently developed drugs.² A momentary reflection calls to mind the startling advances in all aspects of medicine in our day—for example, the control of fertility, complicated heart transplants and operations, and a greatly increased life expectancy. However, these biomedical developments have also brought with them new and perplexing ethical dilemmas.

Since 1960, there has been an ever-growing interest in biomedical ethics. Before 1960, little or no attention was paid to medical ethics by most people and disciplines. Few ethical problems existed because the criteria of good medicine and of good ethics were one and the same. The whole purpose of medicine was to care for and cure the individual patient. Whatever the doctor did was directed to the goal of helping the individual patient. Ethics proposed exactly the same criterion—that is, any medical procedure, therapy, or treatment is good if it is to the benefit of the individual patient. Since both medicine and ethics recognized the same basic criterion, there were few, if any, areas of conflict.

The very fact that contemporary developments in medicine and science give us greater knowledge and power constitutes a general reason for more awareness of ethical problems about our use of this power. However, these newer developments in many areas raise an entirely new set of ethical questions precisely because the purpose and goal of biomedical knowledge, power, and technology are no longer restricted to the cure and care of the individual patient. The following questions, which are discussed in greater detail in later chapters, illustrate the basic contention that ethical problems have arisen because of the greater knowledge and power that human beings possess and because, through this power, biomedical interventions no longer are always destined to help the individual who is somehow exposed to danger or even harmed in the process itself. The purpose of this section is not to solve all these problems but rather to give intelligibility and understanding to the more basic question of why these problems constitute ethical questions and dilemmas.³

First, consider transplants between living human beings. One of the great medical advances in the decade of the 1950s was the successful transplant of a kidney from one living person to another living person who had no kidney function and who needed a kidney in order to live. The donor had two kidneys so that the loss of one, while exposing the individual to some possible future danger, did not constitute any immediate, grave danger for the donor. Because of the problem of rejection in transplants, the donations usually came from a twin or a sibling of the person who needed the kidney. Through such a donation, the kidney recipient was able to live.