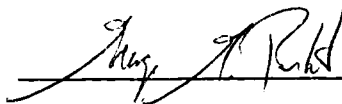


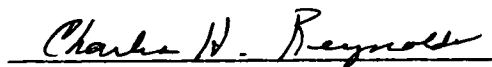
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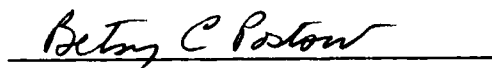
I am submitting herewith a dissertation written by Scott Eugene Daniels entitled "Justifying Human Gene Therapy: An Assessment of Some of the Central Ethical Considerations Underlying the Application of Genetic Knowledge to Human Subjects from the Prespective of the Traditional Conscience." I have examined the final copy of this dissertation for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy, with a major in Philosophy.


Glenn C. Graber, Major Professor

We have read this dissertation
and recommend its acceptance:







Accepted for the Council:


Vice Provost
and Dean of the Graduate School

JUSTIFYING HUMAN GENE THERAPY: AN ASSESSMENT OF SOME
OF THE CENTRAL ETHICAL CONSIDERATIONS UNDERLYING THE
APPLICATION OF GENETIC KNOWLEDGE TO HUMAN SUBJECTS
FROM THE PERSPECTIVE OF THE TRADITIONAL CONSCIENCE

A DISSERTATION

Presented for the

Doctor of Philosophy

Degree

The University of Tennessee, Knoxville

Scott Eugene Daniels
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PARCHMENT DEED

SOUTHWORTH CO. U.S.A.

DEDICATION

A dissertation is not the mark of individual effort alone, but a measure of the sacrifice made by loved ones who share in this achievement. I wish to express my deepest gratitude to my wife Constance, and children Melissa Christine, and Andrew Scott Daniels for allowing me the privilege to complete a goal that I have sought after for several years. It is no platitude to say that your continual encouragement and patience has made an otherwise impossible task possible. With all my affection I thank you.

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committee is a thankless task, but throughout every draft and revision he has been a continuous encouragement.

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In addition, I owe a special debt to Professor Basil Mitchell now retired from his chair at Oxford University. His contributions to philosophy of religion, law and ethical theory have left a imprint on me that I care not to change. I shall trust that my attempts to go beyond his ideas have done them justice.

ABSTRACT

A primary concern of bioethics deals with setting moral limits to applications of newly emerging biotechnologies on human beings. That task is at the center of the debate on gene therapy. The aim of this dissertation is to discuss some of the prominent considerations affecting the nature of moral limits set in this area of innovative research medicine. Any discussion of these issues presupposes some normative commitments that must ultimately be judged on their own merits. That exercise, however, is not the primary aim of this study. Rather, throughout this essay, the author assumes the perspective of the traditional conscience in order to identify ethical considerations affecting advances in the biomedical sciences.

Our contemporary moral confusion is commonly attributed to the collapse of the traditional conscience. Since "secular bioethics" is said to replace older patterns of thought, it is necessary to inquire about its normative structure. The interpretation given to it in this essay is to understand the modern ethical mind as comprised of two spheres. One realm presumes that ethical thinking is exhausted by the dictates of consequentialist reasoning. Beyond this realm is a moral sphere which is deeply personal and private, characterized by profound truths about human reality and incompatible philosophies of life, and therefore, incapable of rational assessment. This is the sphere of autonomy and self-determination. In the course of the early stage of the dissertation argument, this scheme emerges from the broader cultural

development typified in the historical exchange between scientific rationalism and romanticism. Scientific rationalism influences contemporary secular bioethics by placing significance on the felt scientific duty to advance biomedical knowledge for the betterment of mankind. By contrast, romanticism places paramount importance on self-expressivism. Although these two perspectives have a common origin in the beginnings of modern science, they typically divide more or less radically over the role and significance given to autonomy within their respective normative orientations. The crux of contemporary bioethics has been to reconcile these opposing forces. The confluence of these two strands of thought develop along one of two paths. One is a normative system that restricts scientific pursuits to answering questions about the most effective means to a specified end, where the end in view is self-expression. The other approach involves autonomy as an independent side-constraint that prohibits science from developing in ways that would diminish self-creation. Although these two positions are often indistinguishable in practice, it is the latter position that is the primary focus of this study.

It is with the two-sphere perspective that the ethics of gene therapy is examined. This means that the justification for the appropriateness of genetic intervention follows along broadly utilitarian lines. The predominant rationale within this scheme claims that the avoidance of pain that would be brought about by applying gene therapy far exceeds the potential for harm. Although the common-sense moralist is moved by the compassionate use of gene therapy, a consequentialist basis for its application remains disconcerting. The common-sense response to this development is to challenge the inadequacy

of this consequentialist logic to establish moral limitations. In order to address this objection, the move has primarily been to introduce the second level of morality. Neo-Kantians attach a side-constraint of autonomy to the basic means-to-end pattern of reasoning. But this move, too, is found to be unsatisfactory. First, autonomy is essentially permissive. It cannot judge between human wants and needs. The policy that flows from this approach is to permit the widest range of genetic selection subject only to minimal social controls established by the utilitarian calculus. Second, its emphasis on self-expressivism as the only or most significant aspect of human nature fragments human existence, and degrades the completeness of being human.

The conclusion reached is that an alternative constraint is required to establish adequate limits to scientific advances in human genetics. The sanctity of human life understood as respect for the entire human person best accounts for the intuitive appeal that many feel toward the purposes of certain types of interventions (e.g., to alleviate pain), and the felt abhorrence for other types of manipulations (e.g., to make physical and mental capacities more suitable to one's personal life pursuit). As a value familiar to everyone reared in the cultural traditions of the West, this traditional moral distinction establishes a genuine moral limit. Indeed this traditional principle is a necessary condition for justifying certain forms of genetic intervention; for in some cases the utilitarian calculus requires the termination of life and not therapeutic intervention, as it is commonly supposed; while in other instances contemporary bioethics permits unrestricted manipulations.

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Chapter 1

INTRODUCTION

We are all quite familiar with the anxiety felt when talk about tampering with the genetic material in human subjects turns to actual planning. Yet, we are also poignantly aware of the suffering that results from a life plagued by a grave genetic disorder. This common experience is exacerbated by the fact that medical knowledge possesses the limited ability to alleviate some tragedies. Anyone who holds the highest regard for human life cannot escape feeling this tension when thinking about the morality of genetic engineering. Our shared compassion arouses within us a sense of duty to enlist all of our resources and powers to ameliorate misery. Yet, being rational creatures we desire to be reflective about our present and future practices, especially in circumstances where primitive knowledge and divergent moralities lead to differing policies.

After a lengthy and intense debate a consensus has emerged regarding the uses of genetic engineering on human subjects. Policymakers, however, are ambivalent about what this consensus implies for future public policy. The medical community appears ready to accept therapeutic uses of genetic intervention. Bioethicists, in an attempt to assist health care providers, take pains to distinguish between intervention in somatic (body) and germ (reproductive) cells. This distinction carries with it moral importance. The practical effect of limiting the genetic alterations to body cell manipulations means that

only the individual is affected, with no future impact on the offspring and the future of the human race. Moreover, clinicians are attracted to the ethical significance of this distinction because it permits interventions resembling other conventional therapies. However, despite the favorable considerations for embracing this distinction, reasonable doubt remains about what constitutes therapeutic uses of genetic knowledge, as contrasted with non-therapeutic uses, and what moral constraints ought to be established on the pursuit and application of this science. These issues are the subject of my dissertation.

Undue Concern about Remote Consequences

Since my thesis concerns the directions and goals of science in the human application of gene therapy, an imaginary objector might allege that my focus fosters needless anxieties that have frequently incited the populous. Both scientists and philosophers dispute the relevance of long-term risks of biotechnology for moral deliberation. It is commonly urged that the proper perspective for public debate focuses solely on issues that fall within the bounds of current or immediate foreseeable technology. This objection is not a new one. Writing in 1971 when gene transfer was still less of a reality, Dr. Bernard Davis sought to placate the "journalistic and political motives for stirring up such anxieties," warning that the "preoccupation with very remote dangers will dilute discussions of issues of real concern, and can develop diffuse anxieties that will distort those

issues."¹ At that time, his remarks were intended to mollify the fears about remote future consequences resulting from the development of a biotechnology that would permit polygene transfer, making possible the engineering of behavioral traits such as temperament, motor skills, intelligence, and so forth.

A lack of realism is a serious criticism. But even if we recognize that outright distortion and science fiction do not serve the public interest, an objection such as Davis' seems misplaced for several reasons. First, there are the more technical considerations: Biotechnology is a new frontier, and it is not always possible to specify with accuracy what is or is not probable, even in the near future. In a different but related context, one is mindful of Rutherford's now infamous prediction more than a generation ago ruling out the practical application of atomic energy in his foreseeable future. He was wrong of course, for a decade after his pronouncement "the Bomb" was dropped. His myopic vision of future events is an equally vivid reminder for our generation. If undue emphasis on future activity distorts the present debate, the same is true for narrowing it to only the issues surrounding current technology.

Second, our nation desires to remain competitive internationally in the field of medical technology; and while this does not mean that society is incapable of making independent judgments about the present course of events, scientific competitiveness does become an important, if not an overbearing, consideration in weighing policy

¹Bernard D. Davis, "Ethical and Technical Aspects of Genetic Intervention," The New England Journal of Medicine 285 no. 14 (September 30, 1971), p. 800.

alternatives. Yet there is a sense in which the future is now. Even if the actual uses of these technologies are distant, they do require funding for continued research much of which comes from public revenues.² Macroeconomic priorities must be set, and tax money has to be spent to bring about the fruition of those goals. Judgments made here about financing biomedical research have a clear ethical dimension which is sometimes overlooked by policymakers and scientists. Most reflective individuals, however, agree that assessing the future of biotechnology should not be limited solely to the "experts." If ethical deliberation is genuinely democratic, lay people have a right to express inarticulate revulsion about possible abuses of gene therapy, and preferences about what they do and do not wish to support through research funds.

Third, and most important, the approach that warns against preoccupations with long-term uses and abuses of gene therapy begs the question in favor of a utilitarian scheme of moral reasoning. The strategy to place the burden of proof on those apprehensive about gene therapy assumes that the only legitimate concern with scientific applications is safety. Thus, so long as there are no ill effects, or at least the benefits outweigh the risks, why should we not proceed? Indeed, to proceed with caution would seem to be the only sensible policy, given the way the question has been framed. Part of what is at issue, however, concerns the very ideals of science in relation to social applications. One might accept somatic therapy that affects only the enzyme levels in individuals while resisting further extension of

²The 1988 President's Budget allocates money to fund the Genome Project to sequence and map the human genome. The total expenditures over a 15 year period are projected at three billion dollars.

the technology to include manipulating the germ-line (which has the irreversible effect of directly changing the human race), even if the latter could be done safely.

Finally, it is not only laypersons who stir up latent fears about changing human nature; scientists do too. In another article, written a few years later, Dr. Davis seems to have failed to heed his own earlier warning.³ Writing about the uses of biological engineering in medicine, he stated that "our fundamental decision . . . is whether or not we should intervene in our own evolution deliberately, rather than continue to do so haphazardly; the problems of technique seem secondary." From the general tone of his paper, one could infer that he is not only prepared to make the necessary plans, but he would urge increased research in psychogenetic, a field that he says deals with the genetics of behavior, temperament, and intelligence. That is what the ordinary man has suspected all along. It is, of course, to Dr. Davis' merit that he never said society should avoid discussing futuristic trends, but only that we ought to avoid becoming preoccupied with them so that the debate reaches a stalemate. Yet where the ideals of the social application of science are concerned a measure of preoccupation seems fully justified at all levels, and well worth the threat of stalemate.

³"Threat and Promise in Genetic Engineering," in Ethical Issues in Biology and Medicine, Proceeding of a Symposium on the Identity and Dignity of Man, sponsored by Boston University, School of Theology and American Association for the Advancement of Science, edited by Preston N. Williams (Cambridge: Schenkman Publishing Company, 1973), p. 18, 22.

The Contemporary Moral Confusion
in Medical Ethics

It is commonly stressed that bioethics takes place in the aftermath of the collapse of the traditional conscience, a conscience which was once largely, though not exclusively, informed by a religious framework of human nature that supported moral worth and conduct.⁴ In our contemporary medical setting, however, this prop is said to have been entirely removed by increased biomedical knowledge and its technological applications. It is this absence of values that has resulted in a contemporary moral crisis. In the rubble that remains, not only do serious differences of opinion exist over the scope, content, and character of morality, but also profound disagreements about the nature of human beings.⁵

Furthermore, people differ about the significance of this state of affairs. For some, the traditional world view was quite reliable and its loss should be remedied by rehabilitating it. Others see the breakdown as a welcome opportunity to rid society of outmoded beliefs, which

⁴It is widely accepted that the rise to prominence of the Hippocratic ethic has been its general compatibility with Christianity. As the influence of the religion increased so did the importance of the Hippocratic tradition. Cf. Donald Konold, "History of Medical Ethics," in Encyclopedia of Bioethics, 4 vol. ed. Warren T. Reich (New York: The Free Press, 1978), 1:64; also, note the comparative study from the Medieval period by Loren C. MacKinney, "Medical Ethics and Etiquette in the Early Middle Ages: The Persistence of Hippocratic Ideals," who concludes that, "whereas the treatises on medical ethics often manifest a highly Christian ideology, those on etiquette are more secular," in C. R. Burns Legacies in Ethics and Medicine (New York: Science History Publications, 1977), p. 202.

⁵Edmund D. Pellegrino and David C. Thomasma maintain that "the apparent inability to resolve our medical-moral dilemma stems from a lack of a meaningful view of human nature." A Philosophical Basis of Medical Practice; Toward a Philosophy and Ethic of the Healing Professions (New York: Oxford University Press, 1981), p. 183.

lack insufficient scientific warrant, and to set it once and for all times on a rational course of development. Still others think it represents a desirable move toward a permissive society where the chains of tradition can no longer enslave the human soul; it marks an inevitable transition to a pluralistic society which must be effectively managed in as reasonable a fashion as possible so as to protect individual freedom. Consequently, the task of bioethics is an attempt to construct an interpretive framework that can provide a revised understanding of the human condition, and justify our fundamental moral intuitions, as well as establish procedures that can serve to resolve ethical conflicts in medicine. Framed in this fashion, it is a search limited exclusively to moral beliefs that can be held only universally. These developments indicate that the physician or medical researcher can no longer take for granted those cherished moral principles which were once propounded by his predecessors. Our contemporary moral confusion, then, amounts to the passing of authority regarding specific moral beliefs, and it is now undermining the moral sensibility that guides the development of medicine.

Throughout this dissertation I will be assuming a moral point of view that is consonant with, if not identical to, the traditional mind. However, while I will talk about such notions as 'moral intuitions,' 'our common moral sense,' or substantive norms, such as the sanctity of human life, I do not mean to suggest any form of intuitionism. Although it will not be the aim of this dissertation to work out my justification theory, I will be assuming that moral intuitions, considered judgments, and the like are justified on the basis of

the coherence of converging considerations. To the extent that one views morality within the context of human needs and insists that ethical judgments must be supported by reasons that relate in some intelligible way to human well-being, it is necessary that all relevant beliefs regarding human nature and destiny be given due consideration in order to achieve an adequate understanding of biomedical morality. Furthermore, this appears to be the pattern for the theistic and secular bioethicists alike. Indeed, the aim of this study is to make explicit those logical structures and substantive commitments that shape the secular bioethicist's inclination toward defending and promoting certain types of genetic interventions (e.g., germ-line manipulation). The thrust of my argument stops short of finally judging particular types of interventions. In generations past, physicians could rely on their moral intuitions because there was an assumed set moral beliefs that justified them. Situations have changed and anyone who takes up the cause of the traditional conscience will have to submit one's deliberations to rational scrutiny, rather than appealing to the self-evidence of the respective intuition.

The Metatheoretical Commitment of the Dissertation

My approach is broadly a defense of what I shall refer to in various ways as common-sense morality, ordinary morality, or, more simply, the traditional conscience as it has been influential within medicine. These references are for practical purposes taken to be approximate equivalents of the same general way of thinking. As a preliminary introduction to the pattern of thought behind these terms, it will suffice (and is perhaps the easiest starting point) to contrast

ordinary morality with consequentialism, since this theoretical approach has enormous influence over biomedical research. The central characteristic to this approach is that morality imposes certain limits on our actions. If one takes utility (beneficence), or the demand to promote those actions that are conducive to producing a specified state of affairs, as the basic principle of ethical reasoning, 'limits' may be thought of in two ways. First, those that are imposed by morality on doing "good"--e.g. the peculiar value placed on human beings, where human life is construed as a gift, and not something to be manipulated for frivolous reasons. Second, limits that are imposed on morality in order to give some weight to the outcomes of principled actions that might preempt achieving good--e.g. in recognizing that human life possesses unconditional worth, there is no requirement to extend a life beyond a certain point. Consequentialism morally requires that agents perform the act (promulgate the rule) that will lead to the best results overall. Its exclusive focus is directed toward maximizing the outcomes of certain actions. Both types of limits, however, are meaningless from the perspective of consequentialism. It ignores limits in the first sense because any intervention is ethically justified as long as it leads to the best consequences overall. And, there are no limits of the second kind because there is simply no reason to consider anything but the consequences, and those actions conducive to bringing about a desirable state of affairs. The first type of limit affects the logic of consequentialism and the second is directed at the substantive value taken to be intrinsically valuable.

The traditional conscience is also a substantive notion referring to a cluster of moral intuitions that have been thought to be a

trustworthy guide to human action largely because the implicit framework that made them intelligible has gone unquestioned until recently. Some of the more prominent ones regard sexual behavior (viz. chastity before marriage, fidelity in marriage), the wrongness of murder, the virtue of compassion, truthfulness, and the like. But in this essay, I will be exploring the use of the respect for human life as a limit to the means-to-an-end pattern of reasoning. For anyone genuinely democratic, ordinary moral beliefs must count for something. Philosophical defenses of that point of view directed against the pressures of an austere consequentialism are not uncommon. Recent literature on the subject has centered on common-sense permissions ("excuses") to pursue non-optimific projects and commitments or deontological side-constraints. John Rawls, for instance, has rigorously worked out a theory of justice that departs in significant ways from classical utilitarian conceptions.⁶ Bernard William has astutely drawn attention to the notion of 'integrity' in order to justify an individual in deviating from act-utilitarianism to pursue one's own plans life.⁷ Stuart Hampshire and Basil Mitchell have made a similar call challenging optimific strategies for safeguarding the sanctity of human life.⁸ I will be following in the footsteps of Hampshire and Mitchell in focusing on the sanctity of human life, but my

⁶John Rawls, A Theory of Justice (Cambridge: Harvard University Press, 1971).

⁷J.J.C. Smart and Bernard Williams, Utilitarian For and Against (New York: Cambridge University Press, 1973), pp. 77-150; especially, section 6, pp. 108-118.

⁸Stuart Hampshire, "Morality and Pessimism," in Public and Private Morality, ed. Stuart Hampshire (New York: Cambridge University Press, 1978); Basil Mitchell, Morality: Religious and Secular (Oxford: Clarendon Press, 1980), pp. 122-137.

concern is not so much with what that principle implies for our treatment of others, as what that principle implies about respecting the entire human person apart from an individual's capacity for rational moral agency. The issue affecting the sanctity of human life in the present context has less to do with shortening or prolonging human life but involves altering or manipulating it. I think this orientation has significant relevance to the matter at hand, and makes genetic engineering somewhat more difficult to assess from this perspective.

The appeal to the respect for human persons as an intuitive basis for establishing a substantively satisfying bioethic is contentious. It raises several metaethical questions about the reliability of moral intuitions in relation to the acceptance of a normative theory. Utilitarians have long sought to establish the conclusions of applying the principle of utility by discounting as far as possible, or even excluding, our ordinary anti-utilitarian beliefs and attitudes, treating them as part of ethical conditioning at an immature or unenlightened stage of moral development. J. J. C. Smart's statements that moral inclinations lack credibility represent vintage consequentialism.

It seemed to me then that since the utilitarian principle expressed the attitude of generalized benevolence, anyone who rejected utilitarianism would have to be hard hearted, i.e. to some extent non-benevolent, or else would have to be the prey of conceptual confusion or an unthinking adherent of traditional ways of thought, or perhaps be an adherent of some religious system of ethics, which could be undermined by metaphysical criticism. Admittedly utilitarianism does have consequences which are incompatible with the common moral consciousness, but I tended to take the view "so much the worse for the common moral consciousness".⁹

⁹J. J. C. Smart and Bernard Williams Utilitarianism For and Against (New York: Cambridge University Press, 1973), pp. 67-68. Peter Singer takes the same position: "Why should we not rather make the opposite assumption, that all the particular moral judgments we intuitively make are likely to derive from discarded religious systems, from warped views of sex and bodily functions, or from customs necessary for

A similar objection could be raised from the vantage point of any normative theory since the purpose of a theory is to interpret our moral feelings and give guidance to making ethical judgments. In any case, moral convictions that fail to conform to theoretical patterns will be discounted as far as possible from deliberation. But the issue is more complicated than what might at first seem. It is not at all clear that a normative theory can be fully satisfactory if it does not in some way and to some degree take account of ordinary intuitions. Indeed the charge that reference to intuitions are inescapable in formulating ethical commitments seems unavoidable. J. J. C. Smart's own position evidences a good illustration of this difficulty. What we may ask is the "attitude of generalized benevolence," if it is not an ordinary intuition? Smart may claim that he is not trying to give a rational defense of his ultimate ethical principle, and hold that any ultimate value rests with an expression of emotional disposition. But if one makes this move, there will be no recourse to criticizing the bioethicist intent on utilizing the traditional conscience in establishing ethical judgments; for in final analysis the emotivist must recognize that passions are as person relative as intuitions.

Absent a frame reference to give meaning and coherence to particular moral leanings, it is sensible to inquire about the correctness or incorrectness of intuitions. One response to this concern has been to hold that certain fundamental values (e.g. respect for human life,

the survival of the group in social and economic circumstances that now lie in the distant past?" See "Sedgwick and Reflective Equilibrium," The Monist 58 no. 3 (July 1974), p. 516.

the principle of utility) are self-evident with the implication being that the truth of basic moral intuitions like observations in science are infallible and certain. This doctrine, known as ethical intuitionism, falls prey to an obvious and telling objection. It fails to account for the diversity of reactions to a given situation. This objection must surely be admitted. But does it totally nullify the epistemological role of moral intuitions in moral thinking? The approach in this dissertation is to assume a justificatory scheme that acknowledges the fallibility of moral intuitions. One implication of this position is to depart from the traditional foundationalist method, and look for the coherence among moral beliefs, giving those that fit into the overall scheme greater credibility than those that do not. The reliability of a moral principle, such as the respect for human life, will be justified according to its coherence with other ethical principles, and established background beliefs, as well as its capacity to explain a number of intuitive judgments in a variety of particular situations. Although this process is not straightforward, there is some solace in the similarity it bears to making a rational choice between competing scientific theories.¹⁰ Once theories and intuitions are both recognized as being fallible some argue that the question becomes one of establishing initial credibility so that they can be used to test ethical principles by seeing how they square with intuitions in particular

¹⁰For a discussion of the way in which scientific theories progress see Thomas S. Kuhn The Structure of Scientific Revolutions (Chicago: University of Chicago Press, 1962).

cases.¹¹ But it seems to me that this problem assumes that individual intuitions can be examined in isolation from the theoretical scheme which give them significance--a position that is denied by departing from intuitionism. The issue, rather, is one of judging theories. On this view, intuitions have presumptive status and are discarded after failure to cohere with other judgments and beliefs. Since it is not my task to discuss these metatheoretical problems, I must be content to examine the intellectual structures that influence judgments about gene therapy.

Perhaps it will be useful from the outset to anticipate another objection that has been explicitly raised in Smart's claim that anyone who rejects utilitarianism would have to be heartless, confused, unintelligent, or "an adherent of some religious system of ethics, which could be undermined by metaphysical criticism." The presumption seems to be that there is ready agreement as to what is and is not rational; and that all religious beliefs are irredeemably non-rational. This presumption has been arguably challenged recently by Alasdair MacIntyre.¹² There can be no denying the fact that the traditional conscious has been informed by a religious culture that is largely Judaeo-Christian in its orientation. This is not to say that respect for human persons is a notion that is absent from other philosophical schemes, but it is not as developed in those schemes as it is within the its religious frame of reference. Christianity does not confer on life a

¹¹Michael D. Bayles, "Intuitions in Ethics" Dialogue, Canadian Philosophical Review 23 (September 1984), p. 446-452.

¹²Whose Justice? Which Rationality? (South Bend: Notre Dame University Press, 1988).

sanctity that it does not already possess, but makes it possible to recognize, appreciate, and justify the respectful manner in which we believe we ought to treat human beings.

It is open to the critic to reject my argument from the beginning. But in doing so he should not expect that the believer will concede that these beliefs are non-rational, and thereby leave this presumption unchallenged. The critic of religion may properly hold the believer to the standards of rational discourse, but the unbeliever cannot reasonably expect to beg all basic questions from the start. Indeed, the strategy of the thesis is show that insofar as an appeal to intuitive traditional moral beliefs is an acceptable method, the theistic framework provides the most coherent account. To reject the method is to force a wholesale revision of moral thinking. Although I am inherently suspicious of any approach that purports to wipe the slate clean of any residual beliefs that might assist the ethicists in addressing a moral question, that, too, may be an ideally preferred course; yet one who follows it does so not because the traditional conscience fails to handle contemporary bioethical quandaries, but because one is dissatisfied with the conclusions and commitments that result from its deliberations. Deciding which of these approaches is correct is a question that goes beyond my focus on normative ethical assessment.

Thematic Outline of the Dissertation Argument by Chapter

The central argument of this dissertation is to support the claim that contemporary bioethics is rapidly becoming essentially permissive and strongly individualistic. These values shape biomedical

investigations and their applications, the fundamental justification for this activity being to prevent harm and to benefit mankind. Accordingly, it is not surprising that this field raises special concerns about the inadequacy of limits and safeguards protecting the real impact for the welfare of human beings. The balance of my discussion, then, relates to the nature and scope of purported moral limitations on manipulating the genetic endowment of individuals.

Given that bioethicists view their present task as constructing an interpretive framework by which to justify, interpret, and modify our received moral sensibility, it is reasonable to inquire about the structure of contemporary biomedical ethics, at least in its predominant mode. A basic tenet of my position is that the commitments embodied by the larger scheme shape the boundaries of appropriate research and applications. In Chapters Two through Four I take up that question by presenting three representative types of humanism. There are a couple of reasons for this approach. In the first instance, I believe it bears on the issue of justifying certain forms of gene therapy. If ethical judgments are made within a framework, then why should contemporary bioethics be any different? Is it possible that one's normative theory has certain commitments that subtly, yet profoundly, direct how one thinks about the appropriateness of gene therapy? The answer would seem to be yes. So, the task becomes one of identifying those assumptions, and assessing how they are influential within their specific frame of reference. The exercise of consciously laying out descriptions of grand schemes helps us to understand better how moral judgments regarding the

limits to genetic intervention are affected by an array of intellectual considerations embedded within the larger framework.

Second, it has become commonplace to point to background theories as a potent source affecting one's normative commitments. In biomedical ethics, one cannot neglect the enormous influence that the life sciences have on medicine, and hence, biomedical ethics. In what ways do these alter or enrich the way we think about morality and ourselves as individuals? Biology, for instance, tends to emphasize the commonality of man, whereas psychology stresses the individuality of the person. I do not think it is coincidental that mention of 'human nature' has been dropped from the contemporary ethical vernacular and replaced by the notion of 'persons.' The traditional human-center ethic has been undermined by arguments alleging to show that (i) man's distinctiveness is shared by non-human creatures; or (ii) some humans lack the specified quality; or (iii) human beings possess the distinctive quality in varying degrees to others. This ethical development is also reinforced by the evolutionary conception of human being, and it will be important to see how this set of background beliefs contribute to a judgment to pursue, for instance, germ-line intervention.

The first three chapters make a creative attempt to isolate the strands of thought that constitute contemporary secular bioethics. These three forms of humanisms--scientific, romantic, and liberal--represent ideal types, and none is likely to be found in its pure form. Neither is this a complete listing, or full description of each, though I hope my presentation of them is not arbitrary. In the history of ideas, there has always been a sort of dialectical relationship between

scientific rationalism, and romanticism. I maintain that liberal experience is a sophisticated refinement of these two forces. I have played off of that pervasive historical theme because popular debate makes reference to tenets drawn from that exchange--i.e., the appreciation of nature, evolutionary materialism, the science of man, or chance or choice. The responses to these and other themes readily form the infrastructure of these world views.

Chapter Two focuses on the normative structure of scientific humanism. The overall scheme has within it several features that direct the general responses to ethical questions. First, it places paramount importance on knowledge of human nature. But what is considered knowledge is itself determined by commitments to certain standards for acquiring it. Proponents of this approach to understanding human nature insist on adhering to a strict form of empiricism, maintaining that only beliefs with an experiential basis have epistemic value. Second, it also holds the methodological ideal of a reductionism where all human behaviors are, in some sense, ultimately reducible to biochemical interactions. Reduction of Mendelian genetics to molecular biology is one area in which the reductionist program is currently underway.¹³ This approach is compatible with materialism broadly understood, and seeks to "reduce" or "explain" human intelligence, emotion, and will in terms of neurological transactions caused in part or whole by one's genetic endowment. (The explanatory model need not be limited to genetic causes, but can include environmental factors as well.) In principle,

¹³David L. Hull, "Reduction and Genetics," The Journal of Medicine and Philosophy 6 (1981): pp. 125-143.

it devalues our subjectivity especially human autonomy. Another characteristic of this approach is the role of scientific laws as providing explanations that function solely as predictions. This feature joined by what Bertrand Russell once called the "ultimate ideal of science"¹⁴ reinforces the newly emerging ideal of biomedical sciences of controlling natural processes having significantly human ramifications.

Advocates of this approach when they reflect on ethical questions will sharply distinguish between fact and value, and that outlook will characteristically affect biomedical ethics in one of two ways. First, science treats ethical assertions as merely expressions of feelings or emotions totally incapable of rational support. This is, of course, the doctrine of emotivism. Emotions are so constituted as to be infinitely malleable and adaptable to any state of affairs defined by the relevant sciences. The scientist who takes this view will want to keep morality out of the picture as far as possible. This doctrine, assumed for instance by sociobiologists, has been articulated by E. O. Wilson in his aim to "biologize ethics." The alternative response follows the pattern of consequentialism, which defines an action as ethical if and only if it is conducive to maximizing a state of affairs that is thought to possess intrinsic value. Sociobiologists, for example, typically adopt an evolutionary approach to ethical reasoning. On this view knowledge about the survival of the species is taken to be intrinsically valuable. Accordingly, they judge moral practices by their conducive-

¹⁴ Russell held that science is "a set of propositions arranged in a hierarchy, the lowest level of the hierarchy being concerned with particular facts, and the highest with some general law, governing everything in the universe"; see his work The Scientific Outlook (New York: W. W. Norton, 1931), p. 58.

ness to maximize the inclusive fitness of the species--that is, the capacity of a species to reproduce and adapt to its environment. Although biomedical researchers may not readily identify their value commitments with sociobiologists, they do embrace a similar pattern of reasoning. More often than not, they will simply justify the appropriateness of a research project on the basis of its capacity to achieve "good." Yet their understanding of "good" might be shaped commitments to evolutionary theory resembling those of sociobiology.

With respect to the ethical question of establishing limits on the pursuits and applications of scientific knowledge, there appear to be none beyond technical barriers that for the moment at least prevent the advancement of knowledge. Furthermore, it is difficult to see how intuitive beliefs contrary to the goal of achieving knowledge for the benefit of mankind will figure into ethical deliberations. In most cases, they will be discredited as subjective opinion or irrational attitudes; and will be shown in some way to be theoretically inadequate. To the extent that they are taken seriously it is because they are thought to be inarticulate representations of beliefs that can be established independently on scientific grounds.

Romantic humanism is the second representative moral scheme. In Chapter Three, I point out two features of this world view which, at first sight, do not fit well together. One theme is the importance of nature as a normative standard--i.e., the appreciation of nature, and the need to be in harmony with it. The famous stanza in Byron's poem Childe Harold exudes this romantic sentiment: "I love not man the less but nature more." The corollary of this attitude is a rejection of

technology as foreign to human purposes. The issue here is whether technological advances are compatible with human nature as romantics conceive it, or whether their artificial character creates new forms of dependency and fetters the free soul. The other romantic theme is closely related to this optimism toward nature, but antagonistic to its authority. It stresses the importance of the individual, who is relentlessly self-expressive, perpetually engaged with his own projects, and preferences. The romantic self is directed less by self-determination than by self-creation. What is important to note with regard to this form of romanticism is the overriding significance that it attaches to autonomy--with its emphasis on expressive inner life--as the fundamental ethical principle. Nature for this type of romantic has become indifferent to purposes that one establishes for oneself. An underlying notion here is that moral values are an imaginative creation. It is this theme that supports the belief that human life is a work of art to be crafted according to personal tastes. Both optimistic and pessimistic attitudes to nature in fact characterize the Romantic movement as an historical phenomenon. The resurgence of this tradition with regard to debate over genetic engineering has been commonly interpreted as a revolt against scientific humanism as a rational moral system claiming authority over the individual and, within the individual, subordinating the will and the emotions to rational control.

Yet despite this vehement antagonism toward scientific humanism, it is easy to speculate on how certain forms of romantic humanism might be inclined to welcome the coming of genetic manipulation, and for somewhat the same reason as scientific humanism. In both

schemes, this technology permits the individual to transcend his own biological nature. For the molecular geneticist, it is a way of minimizing chance in the universe, and bringing about a more effective means to a specified end determined by science. By contrast, the romantic will see genetic engineering as a tool for exercising self-creation. While he will militantly rebel against that end being defined by science, he will rejoice with the advent of a safe and efficient means of freeing oneself from the bonds of one's own physical being.

Romanticism, however, is of two minds when considering genetic manipulation. Optimism with respect to nature as a guide to life leads in a quite different direction. The romantic appreciation for nature is equally potent within contemporary culture, especially among environmentalists. The attitudes underlying this view encourage quite a different policy on gene therapy. Part of the resistance intervening in nature is ascribable to a conception of nature that is purposive, and capable of giving guidance to moral activity, though this purposiveness is not attributable to a transcendent being. It will be part of my project in Chapter Three to reconcile the pessimistic and optimistic poles in romanticism, and suggest how they bear on contemporary secular ethics of genetic intervention. It is enough to say that as a single positions romanticism is unsatisfactory; for either it sets no limits to self-expressivism, or it can tolerate no interventions whatsoever, treating all such attempts as violations of nature.

Chapter Four is devoted to liberal humanism which emerges as an ideal conflation of scientism and romanticism. It is an attempt to reconcile the tension between the influences of scientific rigor and

romantic sensibilities. This scheme conceives of morality as having two features. First, a minimal public morality that is rationally established in much the same way as scientific humanism seeks to establish social control. At this level moral conclusions must conform to patterns of risk/benefit analysis. Beyond this realm, the liberal humanist provides a sphere for individual diversity. Here there are no reliable procedures for choosing one behavior over another. Because the minimal morality presumably sets limits on what is socially permissible, there is need for pluralism, divergent moralities in relation to the same areas of conduct. But the blend of romantic self-creation and utilitarian guidance presents a powerful framework for justifying the bolder forms of genetic engineering such as germ-line manipulation and sex determination. According to this view, the general perimeters are supposedly set by the utilitarian constraints on scientific pursuits within which free choice is allowed to operate. The question, however, is whether or not it can make good on its claims regarding the restraints set by RBA.

The second part of the dissertation is a refinement of my argument by examining the strands of liberal bioethical thought to see how they might concretely play out with respect to gene therapy. My focus remains on the different dimensions of liberal humanism, including both its utilitarian decision procedure for public morality and its Kantian side-constraints. It is this Kantian permission to deviate from the utilitarian calculus that is supposed to capture the ordinary person's common-sense worries about the rapid advance in biotechnology, and to provide adequate safeguards from human abuses.

the traditional conscience. This is supposedly the rational procedure by which public decisions should be made. I conclude that this approach does not capture the manner in which the ordinary person thinks about moral limits. But the second finding is more important: as a decision-making procedure it is vulnerable to the same attacks that have been directed at the intuitive appeal to traditional beliefs in moral thinking. Thus, RBA is no more nor no less reliable than the traditional moral beliefs that have withstood the test of time, despite the dogmatic appeals to accommodating empirical data to substantiate its conclusions.

In Chapter Six, I examine the type of limits on genetic manipulations that consequentialism purports to defend. Despite protests to the contrary, the only limits on moral thinking that a consequentialist can establish are contingent. They are connected either to the present state of empirical knowledge, or to the current absence of technological ability. But neither of these types of restriction approximate what the layperson seeks when appealing to the sacredness of human life. And, it is this after all that lies behind their resistance to "playing God." For them life is not just given as the romantic claims, rather it is a gift. Because of this consideration it is important to distinguish between moral limitations and assurances. Assurances against abuses, rather than moral limits, is a better description of what consequentialism takes as limitations because it connotes the weaker sense embodied in the contingent conditions that ultimately are the barriers to the practices that all disputants would consider unethical. Moreover, moral limits need not be construed only in a negative sense but should also be seen as offering guidance to

consider unethical. Moreover, moral limits need not be construed only in a negative sense but should also be seen as offering guidance to biomedical research. If we consider the implications of RBA which seeks to minimize pain, one reaches some startling conclusions. With respect to body cell interventions, the logic of RBA does not indicate genetic intervention but dictates the destruction of life. When applying RBA to germ-line interventions the conclusions are equally confusing. Depending upon how broadly one construes pain, one could either terminate life or intervene for most any reason. Hence, RBA does not offer a profound vision for biomedical research.

Chapter Seven further elaborates on the previous conclusions by examining what I call "therapeutic utilitarianism," the doctrine which states that the only ethical obligation of biomedical research is to minimize suffering and misery. The focus is to examine the pain as an intrinsic value of the system, and to suggest that some additional values are required if genetic research is to go forward. One might phrase the objection differently given that researchers already think that gene therapy is morally appropriate for human subjects. On this formulation respect for human life is implicit to the progress of this therapy. All this is to say that moral limits must reflect something worthy of protection, and mere sentience (i.e., the capacity to experience pain and pleasure) does not provide an adequate basis for respect. To claim that no positive vision is open to the liberal bioethicists I consider autonomy as a side-constraint as it has been presented by neo-Kantian bioethicists. The conclusions are not very promising. It, too, rests on a rationale that is counterintuitive; for its ultimate emphasis

on the self-expression promotes a false hope in biotechnology as a means to transcend the limits of our biological constitution. Thus, I suggest how this secular assumption might be qualified by expositing the contours of the principle of the sanctity of human life. I conclude that the conceptual scheme of contemporary bioethics is too impoverished to provide sufficient guidance for applying biomedical technology to human subjects.

Chapter 2

SCIENTIFIC HUMANISM AND BIOMEDICAL ETHICS

Biomedical ethics operates against a largely implicit background in which the pursuit of scientific knowledge is given overriding significance. At the outset of my discussion on the ethics of gene therapy, it is helpful to draw attention to the normative importance placed on scientific evidence as it occurs in certain ethical frameworks, and how this lends insight into the sorts of ethical conclusions reached with respect to the various forms of genetic intervention. Most attempts to defend the integrity of moral reasoning within the context of medicine inevitably confront the complaint by scientists that ethics has failed to advance any resolutions to pressing social and biomedical problems. Compared to the non-medical sciences, one cannot help but marvel at the spectacular advances, largely attributable to reductive methodological procedures, that have come about in physics, chemistry and biology. One of the most notable developments in the field of molecular biology has been the discovery of deoxyribonucleic acid (DNA). The impressive progress within these scientific disciplines has also had a significant role in shaping medicine by influencing its goals, defining its standards of practice, and establishing new methods of treatment.¹ Given a general scientific orientation, it is tempting to

¹Michael Gordon, associate professor in the Department of Family Medicine at the University of Washington, comments that "there is no question that the practice of family medicine has been profoundly influenced by developments within anatomy, biochemistry, physiology, and other biological sciences, and will continue to be profoundly influenced by them in the future." In "Research Traditions Available to Family

attribute to "scientific" medicine the relative decline in infant mortality, decreases in infectious diseases, as well as striking improvements of longevity. By contrast, it is no secret that moral philosophers persist in disagreement about concrete issues, as well as about the scope and character of moral philosophy itself. This is especially true for biomedical ethicists whose budding discipline, tailored to assist medical professionals in making responsible decisions in the situations which they more or less routinely face, is a specific instance of the broader discipline. If medical ethicists cannot hope to reach agreement within the confines of their own discipline, what makes them think that they have expertise to offer the medical researcher?

Indeed, a case could be made against mixing ethical theory with medical science. For the concepts that the moral philosopher employs generally lack clarity and precision, and can rarely be tested by the accepted canons of experimentation. It seems inherent in the discipline to engage in excessive speculations, and which are often devoid of the simplicity that is an essential mark of any scientific theory. Considerations such as these have lead Kai Nielsen, a self-described skeptic of moral knowledge, to conclude that "traditional approaches to applied ethics, including biomedical ethics, are in shambles."² Put briefly, one can expect that moral philosophy will only serve to confuse medical practice, not to enlighten it. The successes in the biomedical

Medicine," The Journal of Family Practice, 7 (1978): 60.

²"On Being skeptical about Applied Ethics," in Clinical Medical Ethics: Exploration and Assessment, ed., Terrence F. Ackerman, et. al., (Lanham, MD: University of America, 1987), p. 109.

sciences largely due to scientific progress, unmatched by corresponding advances of moral reasoning, have led many to conjecture that there is something special about "the" scientific method of reasoning which guides the scientist in his investigations. If the scientific method were rigorously applied to medical ethics, it might lead to the disappearance of those problems that continue to plague biomedical inquiries.

This general view of the scientific attitude toward moral beliefs has several ramifications and encompasses the essentials of what I am calling "scientific humanism." Although it can be stated in a variety of ways and at various levels of sophistication, it is the belief that science ought to be advanced, and that in so doing scientific authority should replace moral deliberation. From this characterization of the view, it is obvious that scientific humanism involves a normative claim. The specific nature of that claim will unfold as we progress throughout this chapter. The common strategy is to cast this orientation into a broadly utilitarian scheme, and to defend scientific knowledge as intrinsically valuable.

On the one hand, scientific knowledge may be considered desirable for its own sake. According to this view, the outcomes of applying scientific knowledge are presumed to be purely beneficial. Risks are thought to be insignificant or non-existent. Further support for this approach derives from the long heritage that values science as the preeminent intellectual activity because it exhibits the distinctive marks that divide human beings from other animals. Accordingly, any value that has intrinsic worth is to be given fundamental importance.

The special status of intrinsic value suggests that any research that "promises" to contribute to scientific progress will be justified by the overall scheme. Thus, it is easy to justify the pursuit of science simply because it satisfies the scientist's curiosity to acquire knowledge. This attitude can lead to many activities that are abhorrent to the ordinary mind, and is often criticized as "scientism."

If, on the other hand, biomedical knowledge is considered instrumentally valuable, its merit must be judged on the basis of the risks and benefits that result from its application. It is not always thought that this form falls under the general rubric of scientific humanism because it does not maintain that the outcome is necessarily beneficial. It is in this sense said to be morally neutral. The state of affairs that results from applying the biomedical sciences are seen as neither necessarily good nor necessarily bad. Proponents of this view generally hold that the outcomes of biomedical science applications are mixed blessings. Outcomes are comprised of both benefits and harms. While this view is certainly less hostile toward ordinary morality, in practice there are a number of conflicts that can and do continue to surface between these rival moral conceptions. The way in which these controversies are resolved can reveal the leanings toward scientism. In these situations one generally finds that knowledge is valued both for what it can bring about (i.e., health). These two ways of valuing biomedical knowledge are rarely sorted out in a neat fashion. The problem is most acute in assessing genetic interventions. In this context a research project must be judged by not only the ends but the means to bringing about that goal. It is the latter, and not the former, that is

commonly the subject of ethical controversy in biomedical research. The extent to which ordinary morality is given full credit in judging the appropriateness of the methods constituting the means serves to underscore the point being made here.

The Metatheoretical Basis for Scientific Humanism

In order to appreciate better the grounds for this normative position, it will be helpful to summarize its theoretical underpinnings. The point of this section is to draw attention to the way in which the understanding of science leads to giving special importance to scientific claims, regardless of whether or not they are considered as descriptions of the means or the goal of an intervention. The consideration that scientific knowledge ought to be promoted because it is intrinsically valuable has in the past been supported by the theoretical commitment that observation is infallible. Those who are familiar with recent developments in philosophy of science can locate this scientific attitude toward moral beliefs within the school of positivism, a view that scientific reasoning is the only form of human cognition that has epistemic value. In order to anticipate a possible objection to my understanding of the way in which this conceptual scheme approaches biomedical research, especially as it pertains to the medical uses of genetics, I need to contrast the positivist philosophy of past generations with the more qualified attitude of the present. Most scientists regard themselves as post-positivist thinkers and vigorously resist all associations of scientific medicine with positivism as anachronistic. One might even point out that though modern medicine has developed within an intellectual climate dominated primarily by the positivistic

approach to science, and this has heavily influenced the manner in which the medical profession views itself, nevertheless the scientific way of thinking has itself undergone some major intellectual reforms which are only now beginning to show their effect in medical research. Consequently, a discussion of scientific humanism that is linked to a positivistic philosophy will be criticized for placing too much emphasis on an idealized view of science, rather than the current attitude toward the role of the biological sciences in actual biomedical research. A post-positivist medical researcher who thinks reflectively about the ramifications of the aims and applications of biomedical investigations may not be gripped by the force of my observations precisely because he does not see these practices as antithetical to moral deliberation.

To be sure, few biomedical researchers today continue to adhere to the bold speculations of geneticists who wrote during the first half of this century. Most, I think, would now significantly qualify Hermann Muller's optimism regarding the unlimited potential of genetics to remake humans into persons displaying "a genuine warmth of fellow feeling and a cooperative disposition, a depth and breadth of intellectual capacity, moral courage and integrity, and appreciation of nature and of art, and an aptness of expression and of communication."³ Some researchers and biomedical ethicists might even go so far as to castigate such talk as "scientism," a belief that science, conceived along positivist lines, is the panacea for all human ills, and should be

³"Should We Weaken or Strengthen Our Genetic Heritage?," Daedalus, 90 (Summer 1961), p. 445.

systematically applied to all social problems.⁴ What is important to examine, however, is the source of the complaint. Despite this "conservative" tone, there is a persistent underlying disposition that scientific explanations have greater importance than ordinary moral explanations. Scientific knowledge on this view will be either or both instrumentally and intrinsically valuable, if not in the short term certainly in the long run. This view provides strong support for what John Ladd calls "the scientific imperative": "Do everything in your power to maximize scientific knowledge."⁵ This normative judgment is sometimes lost in debates over the extent to which scientific progress is hampered by technological constraints. Scientific and technical limits, however, are not moral limits. It is important not to confuse them. Part of the layperson's reaction to biomedical science is a response to this confusion, and not to science per se. The conflict between ordinary beliefs and biomedical explanations are connected to beliefs about who we are as human beings and what we are to become as biology progresses.

There have been, of course, more penetrating criticisms of positivistic science that have gone beyond concerns about the uses of

⁴John Ladd in his essay "Are Science and Ethics Compatible?" refers to the "Ideology of Science" stating that "the doctrine that the pursuit of science is a highly moral activity is used to justify many of the demands made on behalf of science, both on individuals and on society at large. . . . A mark of the exalted status assigned to science is the common assumption that moral considerations of other sorts . . . must give way to the objectives of scientific research in case of conflict." cf. H. Tristram Engelhardt and Daniel Callahan, Science Ethics and Medicine, volume 1, The Foundations of Ethics and Its Relationship to Science, (New York: The Hastings Center Institute of Society, Ethics and the Life Sciences, 1976), p. 50.

⁵Ibid., p. 52.

science and challenged several of its fundamental theoretical commitments.⁶ Although these modifications have altered to some extent the scientific outlook, they have not eroded the confidence that most place in scientific judgments. Even in a post-positivist era, positivism continues to enjoy considerable prestige. Scientific humanists are among those who share this revised outlook--they are essentially post-positivistic in their view of science. In order to better understand how the intellectual heritage of scientific humanism is traceable back to the older positivistic scientism, we need to refine the comparison and contrast a bit further.

The central tenet of positivism is that all knowledge must be evidentially linked to empirical experience in a straightforward observational manner.⁷ It was characteristic of the older school to make attempts at setting forth a specific criterion for evidence. This, of course, is problematic. Positivists disagreed among themselves as to the precise nature of the evidential link between a scientific theory and observation. But, all agree that the criterion of evidence must be tied in some way to empirical experience. This dogma is responsible for much of the importance that positivist give to the neutrality of science. To begin with, their strict adherence to this principle means

⁶For an insightful study on the theoretical issues of positivist philosophy of science under review see Ernan McMullin, "Empiricism at Sea," Boston Studies in the Philosophy of Science, 14 (1974): 20-32.

⁷Compare A. J. Ayer's frank admission: "I believe in science. That is, I believe that a theory about the way the world works is not acceptable unless it is confirmed by the facts, and I believe that the only way to discover what the facts are is by empirical observation." What I Believe (London: Routledge and Kegan Paul, 1963), p. 13.

that the realm of cognition has to be limited greatly. In particular, positivists make the sweeping claim that only scientific knowledge has epistemic worth.⁸ This basic conviction is fundamental to their skeptical arguments. They are dogmatically anti-metaphysical and repudiate any beliefs that cannot be reduced to empirical experience. Positivists are equally notorious in challenging all claims to knowledge that do not strictly conform to observational experience and standards of formal logic. Rigorous application of these canons has shaped the positivist ideal of a genuine scientific explanation; a notion that has significant ramifications for ethical reflections about the influence of science on medicine. For them, the form of an explanation is a deduction from a generalized law to the specified set of conditions. But more importantly, an explanation essentially consists of a prediction about some possible occurrence under specified conditions which can then be checked by observation.⁹ The effect of emphasizing the predictive quality of

⁸Rudolf Carnap states this claim in the following manner: "Ultimately, all knowledge goes back to my experiences, which are related to one another, connected, and synthesized; thus, there is a logical progress which leads, first, to the various entities of my consciousness, then to the physical objects, furthermore, with the aid of the latter, to the phenomena of consciousness of other subjects, i.e., to the heteropsychological, and, through the mediation of the heteropsychological, to the cultural objects. . . . this is the theory of knowledge in its entirety." In The Logical Structure of the World, 2nd ed., (Berkeley: University of California Press, 1969), p. 286.

⁹John Passmore also recognizes the emphasis which positivists placed on prediction as a minimal condition for a genuine scientific explanation: "Agnostics and positivists agreed, however, on the crucial point. It is not the task of science, or of any other discipline, to look for causes and secret motions. The most the scientist can do is to summarize in a convenient form the experiences he has had in his laboratory, if in a form which would at the same time . . . offer guidance about the future [emphasis mine]." In Science and Its Critics (New Brunswick: Rutgers University Press, 1978), p. 6.

science rather than its capacity for enhancing understanding is primarily responsible for the scientific attitude toward controlling and manipulating natural processes. Science, according to this view, offers no understanding of human nature and the world in which we live apart from the power to control them. John Ladd, I think, has fairly delineated the connection between the theoretical foundations of positivist science and the normative claim that places exclusive and fundamental importance on scientific knowledge. The argument as he sees it goes like this: "(1) The more we can control natural processes, the better it is for mankind; for then we can bend nature to our will and use it for our own welfare. (2) Science gives us progressively greater control over nature. (3) Therefore, science is good for mankind."¹⁰ In addition, positivists of past generations held observational experience to be infallible, which also strengthened their conviction that science should have wide applicability beyond the scope of the natural sciences.¹¹ To this end they were aggressive in applying these canons to all disciplines with the aim of reforming them. Consequently, through their skeptical attacks, the positivists hoped to replace moral deliberation with scientific authority. This was carried out by

¹⁰"Are Science and Ethics Compatible?" p. 67.

¹¹Moritz Schlick presents the doctrine in his discussion on protocol (i.e. observational) statements: "What was originally meant by 'protocol statements,' which express the facts with absolute simplicity, without any molding, alteration or addition, in whose elaboration every science consists, and which precede all knowing, every judgement regarding the world. . . . If we succeed therefore in expressing the raw facts in 'protocol statements,' without any contamination, these appear to be the absolutely indubitable starting points of all knowledge." In "The Foundation of Knowledge," in A. J. Ayer, ed., Logical Positivism, (New York: Free Press, 1959), pp. 209-10.

eliminating moral discourse from the realm of cognition. Moral assertions had no theoretical functions whatsoever. They merely served to express one's emotional disposition at the moment.¹² This set of doctrines fits nicely with an ethical position referred to as emotivism.

In the contemporary setting, these optimistic claims about the potentials of science are more qualified. Scientific humanists now talk about limiting the role of science in solving social problems, though they do not always make known when it is or is not proper for ordinary moral beliefs to give way to scientific explanations. Ladd, for example, considers the possibility of ethical and scientific theories as separate systems. Science is a conduct-system which he classifies as "closed" because it has a reasonably well defined decision procedure. Although science has been construed as making categorical or absolute demands, he maintains that its activity is morally neutral with respect to whether scientific knowledge per se dictates moral requirements. This move allows him to characterize the tension between science and morality as being much less conflictual than what is commonly thought.¹³ In order to determine the compatibility between these two modes of thought, one must look at the aim of the particular research project and the means it employs to satisfy this aim. This is reasonable as far as it goes, but it does not give any insight into which set of demands or theoretical constructs will prevail on a partic-

¹²As Ayer puts it, they are "excitants of feeling which do not necessarily involve any assertions." Ibid., p. 110

¹³"Are Science and Ethics Compatible?" p. 74.

ular occasion. Without such criteria it is consistent with Ladd's approach to always opt for science over ordinary moral beliefs.

Because of frequent warnings by scientists against the misuse of science, and a frank openness to subjecting scientific applications to moral scrutiny, it is easy to be misled into thinking that there has been a radical change in their approach to science. To be sure, scientific humanists no longer hold many of the positivist doctrines of science and this has reshaped their thinking about ethics considerably, especially within the context of medicine. In particular, they now reject a belief in the infallibility of observation. This theoretical shift has had a definite effect on scientific explanations, restricting a confidence in their predictive quality. Yet despite the intellectual developments in philosophy of science, one essential remnant from positivism persists in ordering the scientist's conceptual scheme: claims to knowledge must be evidentially linked to observational experience. What has been dropped from the more contemporary expression is any attempt to lay down a specific criterion for what can count as acceptable evidence.¹⁴ All that is now required is a weaker position that some empirical experience does exist to confirm or disconfirm one's theoretical beliefs. Kai Nielsen puts it this way: "a putatively factual statement actually has factual significance (is factually meaningful, has factual content) only if some differential experience is relevant to its truth or falsity."¹⁵ By talking about relevant experience,

¹⁴There is no longer any mention of verifiability, falsifiability, nor translatability.

¹⁵Contemporary Critiques of Religion, (New York: Herder and Herder, 1971), p. 58; [emphasis mine.]

Nielsen's position escapes the serious problems that lead to the rejection of positivism. It is admittedly a weaker position, but he can take refuge by pleading the principle of charity, and pointing out that establishing a logical connection continues to be one of the frontiers in philosophy of science. The manner in which the total consequences of this fundamental conviction changes his whole mind and imagination about the foundations of an applied ethic for medical practice and research should not go without notice:

It is not clear what, if anything, could count as a foundation for morality, moral truth (true fundamental moral propositions) or a systematic knowledge of good and evil. It is not clear that there is, or can be, anything substantial in normative ethical theory comparable to what it is possible to have in music theory or architectural theory (to say nothing of physics or biology) which would provide us with such a knowledge of good and evil.¹⁶

Nielsen's sympathy for positivism makes him more skeptical than most scientific humanists regarding any knowledge beyond that found in the natural sciences. Even with his doctrine of relevance there seems to be nothing inherent to judging moral principles that compares to testing explanations in the physical, biological, or for that matter, the social sciences. On this basis, he concludes that "traditional approaches to applied ethics, including biomedical ethics are in shambles." As for his own approach to moral deliberations in medicine, he believes "we should try out the utilization of a certain range of a certain kind of critical social science" ¹⁷ If Nielsen means by this the elimination of moral reasoning altogether, then his view brings him precariously close to embracing the older view of scientism.

¹⁶"On Being Skeptical about Applied Ethics," p. 96.

¹⁷Ibid., p. 108.

A more refined position has been carefully worked out in the recent argument by Gilbert Harman. Unlike the positivists before him, he is prepared to ascribe an explanatory function to moral principles. He arrives at this view by noting certain structural similarities between scientific and moral theories. Because of their purported universality, moral principles bear some resemblance to general laws in science. Furthermore, the immediacy of particular observations as a direct result of perception, in the sense that no conscious reasoning takes place, are structurally analogous to ordinary moral beliefs. More importantly, the most significant departure from positivist science is his acceptance of the theory-laden character of observation; there are, in his words, no "pure observations." Harman's rejection of this single doctrine accounts for his willingness to assign an explanatory function to moral principles, which amounts to their capacity to organize one's ordinary moral beliefs. He claims that:

In other words, in both science and ethics, general principles are invoked to explain particular cases and, therefore, in both science and ethics, the general principles you accept can be tested by appealing to particular judgments that certain things are right or wrong, just or unjust, and so forth; and these judgments are analogous to direct perceptual judgments about facts.¹⁸

However, the sort of testing to which Harman is here referring differs from the positivist view. In particular, it is generally accepted that confirmation or disconfirmation of an explanation is a criterion for an adequate explanation. But the process is far more complicated once one recognizes that observations themselves require interpretations which are in principle fallible. The question of whether to rely on one's

¹⁸Gilbert Harman, The Nature of Morality: An Introduction to Ethics, (New York: Oxford University Press, 1977), p. 6.

theoretical understanding or particular judgments at moments when the two are in conflict is not a straightforward issue to resolve. At least part of testing observational experience rests with ordering one's scheme in a coherent fashion. Here further challenges can be made by applying one's principles to hypothetical situations to see how they hold up to one's intuitive beliefs. In this way one can test one's view by conducting thought experiments. Even this type of experimentation, which Harman takes as characteristic of moral reasoning, is not foreign to the intellectual procedures undertaken in science to evaluate theoretical models.

Yet even with these important structural analogies, Harman is skeptical about holding that moral explanations are rigorously analogous to scientific explanations. While it may be true that scientists sometimes conduct thought experiments, Harman is convinced that scientists place greater reliance on using observations and experiment to confirm or disconfirm general laws:

Observational evidence plays a part in science it does not appear to in ethics, because scientific principles can be justified ultimately by their role in explaining observations, Apparently, moral principles cannot be justified in the same way. It appears to be true that there can be no explanatory chain between moral principles and particular observings in the way that there can be such a chain between scientific principles and particular observings. Conceived as an explanatory theory, morality, unlike science, seems to be cut off from observation.¹⁹

The question is, however, whether this dissimilarity between scientific and moral judgments regarding the role of observation takes away the significance of the remarkable similarity that he finds between them at

¹⁹Ibid., p. 9

other points in his comparison. The answer is clear at least in Harman's mind. This position discloses his penchant for the positivist commitment to the evidentiary status of observation, albeit in a far more sophisticated manner. Like Nielsen, Harman espouses the more general criterion of relevance rather than articulating any specific way in which observation can be said to either confirm or disconfirm a theory. The immunity from observational testing is for Harman the "basic philosophical problem about morality."²⁰ It is precisely the failure of moral theories to satisfy this criterion of relevance that leads him to claim that "moral facts are totally irrelevant to the explanation":²¹

The observation of an event can provide observational evidence for or against a scientific theory in the sense that the truth of that observation can be relevant to a reasonable explanation of why that observation was made. A moral observation does not seem, in the same sense, to be observational evidence for or against any moral theory, since the truth or falsity of the moral observation seems to be completely irrelevant to any reasonable explanation of why that observation was made.²²

Harman's conviction that science provides an epistemic ideal for all knowledge, however, extends beyond his reliance on the criterion of relevance. For he, too, thinks that moral principles should be reducible to general laws in sociological and psychological theory.²³ It is only in the absence of reduction principles that he is compelled to be content with a weaker claim of relevance. So, although he main-

²⁰Ibid., p. vii.

²¹Harman has qualified this position in a recent article, "Moral Explanations of Natural Facts--Can Moral Claims Be Tested Against Moral Reality?," The Southern Journal of Philosophy, 24 supplement (1986): 57-68.

²²The Nature of Morality, p. 7.

²³"Moral Explanations of Natural Facts," p. 65

tains post-positive commitments, which are less encompassing, and he acknowledges that types of expressions other than scientific discourse have an explanatory function, he continues to discriminate among these kinds of explanations by holding that they are in some sense epistemically inferior.²⁴ In practical contexts, where moral and scientific explanations are in conflict, it is easy to predict how he will rule. Harman, of course, has not eliminated moral explanations, as was the aspiration of the older positivists, because that requires reduction principles which he cannot provide. But he betrays his positivist legacy by his willingness to subordinate moral explanations to scientific explanations, and in this manner he replaces moral deliberation with scientific authority.

Given this theoretical background, there are, roughly, two ways to conceive of morality. As was noted previously, one way is in a broadly utilitarian fashion where the ethical thing to do is that which is overall the most effective (given the knowledge of the ways things work and the technical resources) in securing peoples' ends. What these ends are may be a matter of dispute among scientific humanists. Some will say they are what people want when they think coolly about it; others will claim that the nature of the evolutionary process prescribes

²⁴James B. Conant makes the same point about moral and scientific principles after presenting an argument from analogy; Scientific Principles and Moral Conduct, (London: Cambridge University Press, 1967) p. 31.

"There is no equivalent to the extension of the common-sense world by experiment and observation. Therefore, the principles which guide the conduct of a scientist in his work as a scientist are located in one realm, the experiences basic to any normative scheme in another. The two sets of principles are different in kind and not analogous."

ends in some way. In any case, moral intuitions will be accepted only insofar as they can plausibly be represented as an inarticulate recognition of the scientifically specified end. In this situation, the ethical dispute will be defined simply in terms of results of applying science. It is easy to understand why scientists are attracted by this approach to moral deliberation. Its empirical disposition to reasoning about means and ends is congenial to the scientific temperament. Braybrooke and Lindblom observe that its distinctive focus on consequences of actions and policies enhance its scientific character since consequences could be tested analogously to any other scientific hypothesis:

Utilitarianism, at least in the English-speaking world, is the school toward which most social scientists are inclined, if they are inclined toward any. There are historical reasons for this inclination: Important branches of social science, among them economics and sociology, grew out of utilitarian preoccupations. There is also a natural convergence in preoccupations between utilitarianism and social science. Utilitarianism, after all, insists more strongly than any other ethical theory on forcing moral judgments to the test of facts--the facts of social science.²⁵

A second way of thinking about morality is to sharply distinguish between fact and value. Since on this view factual statements alone can be rationally determined, value judgments are thought to be little more than a form of poetic or aesthetic expression; that is, a matter of arbitrary choice by the individual or group. The scientific humanist who takes this line will want to keep morality out of the debate as much as possible. Although Harman's position seems to modify the sharpness

²⁵David Braybrooke and Charles E. Lindblom, A Strategy of Decision: Policy Evaluation as a Social Process (New York: Free Press, 1963) pp. 205-6.

of the discontinuity, there remains in his view ample flexibility for substituting scientific authority for ordinary moral demands. In practice, however, both these general approaches are employed and it is not always clear which is being used as the warrant for particular ethical judgments.

Biology and Biomedical Ethics

Can science help in making moral decisions? This has been a problematic question for scientists to answer for several reasons. First, as we have seen throughout the proceeding discussion, many of those struck by the strict empiricist outlook are skeptical about moral reasoning. From this perspective, the history of the conflict between science and morals has been one in which the scientist has developed elaborate theories in order to reach ethical decisions that conform to empirical standards of evidence. To the extent that this has been accomplished, scientists are prepared to rest content with the results. But this reliance on science does not align with other tenets in the scheme. The problem, as scientific humanists themselves are quick to point out, is that moral judgments lack an empirical foundation. Thus, whatever cannot be captured by scientific observation is viewed as epistemically inferior, or incoherent. A second reason, and one that is closely related to the first, is that all attempts to naturalize ethics have been unsuccessful. Most scientists are willing to acknowledge that it is logically impossible to reach moral conclusions from purely factual premises. Nonetheless, choices about the direction in which science should head must be made, and scientific humanists state that, when there is a dispute between biomedical science and ordinary

morality, the resolution ought always to turn solely on the basis of observational evidence and further scientific research. Given this attitude, science is enshrined as the ideal of rationality. Finally, the different scientific disciplines that seek to study human nature fail to take full account of the value-laden assumptions brought to the investigation and how they can present fundamentally different images of man. This is surely the case between the basic biological and behavioral sciences. As we will see, biological explanations tend to treat human nature as a "fixed" reality, whereas behavioral descriptions typically depict man as a completely malleable entity. Bearing these considerations in mind, how have bioethicists sought to lessen the tension between science and morality?

The standard response, as we have previously stated, is framed in utilitarian terms, and focuses on the capability of science to discover the most reliable means to achieve certain desirable goals, or to avoid certain undesirable goals. In general, the business of science is to evaluate the means; it is indifferent toward the ends. This is why assessing the means is thought of as a strictly technical enterprise, and a morally neutral one at that. The issue, however, is whether biologists can make good on these claims. The problem in this way of thinking was forcefully pointed out a generation ago by John Dewey, who in seeking to offer what he referred to as an "experimental approach to morality," warned against making sharp distinctions between means and ends. Since science can best deal with what is measurable, there is always the pressure to quantify the goal and define it in terms of observational language. In so doing, it becomes nearly impossible in

practice, if not in theory, to distinguish the two. Nevertheless, scientific humanists frequently do not heed the warnings, and continue to adopt the position. Bernard Davis, professor of bacterial physiology at Harvard Medical School, gives a vigorous statement of the doctrine under consideration:

We must reject such scientism. At the same time, we need not accept the opposite extreme--the view that science is irrelevant to such problems. We can take an intermediate position: that even though science cannot solve normative problems, which are in principle incapable of an objectively correct solution, it can nevertheless make valuable contributions. Thus the scientific method can help us to evaluate the means and the consequences of reaching various goals, and these analyses can contribute, along with our value judgments, to our choice of goals.²⁶

He recognizes, however, that more than formal scientific reasoning based on observation is necessary to evaluate a moral theory, and so he stresses the significance of further assumptions about human nature:

In addition, scientific insights into human nature are surely relevant to the problem of formulating ethical systems: for however wide the range of possible systems, it is clear that any viable system must be consonant with human nature. In other words, our biological evolution has set broad constraints on our behavior, and between these borders our cultural evolution steers our course.²⁷

Although Davis repudiates scientism, he fails to distinguish his own "intermediate position" beyond the concession that "science cannot solve normative problems." Similarly his view looks more encompassing than he is willing to acknowledge. He points out, for instance, that science has led to moral skepticism by subverting the moral consensus that had been built up around the outmoded conception of human nature. In par-

²⁶"A Middle Course Between Irrelevance and Scientism," in The Sociobiology Debate, ed., Arthur L. Caplan (New York: Harper & Rowe, 1978), pp. 315-16.

²⁷Ibid., p. 316.

ticular, evolutionary theory has "undermined the transcendental foundation for ethics, that has guided the bulk of people in the West for millennia" and this has resulted in "unlimited moral relativism." Davis hopes that science can fill the void and restore the consensus by not only offering a new understanding of human nature, but by placing it on a scientific foundation. The science that he recommends for providing this service is biology, in particular sociobiology. This may prove more controversial than he thinks. He would, no doubt, justify the scientific reformulation on the basis of a claim that is more widely acknowledged: "any viable system must be consonant with human nature." Yet, in taking account of observational fallibility, and the fact that 'human nature' as a theoretical term is an essentially contested concept even among scientists, Davis' enthusiasm for scientific explanations in this area may be premature. In any event, in order to better understand why he thinks biological "analyses can contribute, along with our value judgments, to our choice of goals," it is necessary to examine the claims of sociobiology.

Sociobiology is an attempt to address morality from the perspective of biology. Edward O. Wilson, one of the most articulate spokesmen for this perspective, defines it as a "systematic study of the biological basis of all forms of social behavior, in all kinds of organisms, including man."²⁸ As a scientific hypothesis (contrasted with theory), it draws on the principles of genetics and evolutionary theory to explain human social behaviors. Two evolutionary principles that pro-

²⁸On Human Nature (Cambridge: Harvard University Press, 1978), p. 16.

vide the basis for many of the explanations are natural selection, and comparisons with other species on the zoological tree. Bringing these to bear on the study of human beings results in a reinterpretation of human nature that undercuts other disciplinary constructions of human nature, as well as many of the traditional secular and religious notions that ascribe unique worth to humans. Biology, he says, is the "key" to understanding human nature.

As an intellectual movement, sociobiologists with their candid statements about human nature have made explicit what some molecular biologists have left implicit. Their fundamentally different picture of man that has given rise to the "biological revolution."²⁹ In Wilson's book On Human Nature, he uses sociobiology to refer to a set of typical human behaviors that can be observed universally throughout many cultures and societies. This set of traits can be broken down into four general "elemental categories," aggression, sex, altruism, and religion. Beneath these behavioral traits lie the "hard biological substructures" of our nature, hormones, physiological processes, and the like, which are ultimately determined by our genetic make-up. Furthermore, while sociobiologists recognize that human nature expresses itself in a wide array of behaviors depending upon diverse cultural practices, they are impressed with its constancy. Wilson himself frequently talks about the biological uniformity of humanity:

We are a single species, not two or more, one great breeding system through which genes flow and mix in each generation. Because of that flux, mankind viewed over many generations shares a single

²⁹Robert H. Haynes, "What is the Biological Revolution?" in Robert H. Haynes, ed., Man and the Biological Revolution (Toronto: York University Press, 1976), pp. 3-17.

human nature within which relatively minor hereditary influences recycle through ever changing patterns, between the sexes and across families and entire populations.³⁰

Constancy with cultural variation is the theme that runs throughout his writings. If sociobiology theory is correct, human nature is not infinitely malleable as some social psychologists think. Humans have a common genetic endowment that defines their "innate predispositions." Biology does permit a range of behavioral diversity, but, as Wilson picturesquely puts it, "the genes hold culture on a leash."³¹ Any given category of behavior will undergo considerable cultural conditioning. In this sense, the leash is quite long; but, there is a leash that limits the range of diversity in human behaviors. The precise correlation between genes and behavior, however, is left ambiguous. Yet, on a continuum running from environmental conditioning to genetic determination his emphasis is unequivocally towards the latter. The uniformity of human nature, then, is the most compelling fact that needs an explanation. Sociobiology purports that only a biological interpretation can adequately account for that fact.

Another fact of human nature for sociobiologists is that its genetic constitution has been developing over many centuries. Wilson's account of the variation within limits rests on his deterministic doctrine of development: "human genes prescribe the capacity to develop a certain array of traits. In some categories of behavior, the array is limited and the outcome can be altered only by strenuous training--if ever. In other words, the array is vast and the outcome easily

³⁰Ibid., p. 50.

³¹Ibid., p. 167.

influenced."³² These genes, however, that have become the biological constitution of human nature were fixed in evolutionary history through natural selection at a time when the cultural environment was very dissimilar to our advanced industrial civilization:

In my opinion the key to the emergence of civilization is hypertrophy, the extreme growth of pre-existing structures. Like the teeth of the baby elephant that lengthen into tusks, and the cranial bones of the male elk that sprout into astonishing great antlers, the basic social responses of the hunter-gathers have metamorphosed from relatively modest environment adaptations into unexpectedly elaborate, even monstrous forms in more advanced societies. Yet the directions of change can take and its final products are constrained by the genetically influenced behavioral predispositions that constituted the earlier, simpler adaptations of preliterate human beings.³³

Consequently, most of the human behavioral patterns, such as man's aggressive behavior, the traditional family structure with its accompanying sex roles, "altruistic" behavior, which is ultimately based on selfish motives, and certain religious practices are residual behaviors conducive to an existence in a tribal society. Human nature as it has evolved is, however, out of step with modern culture; and this is said to be a reality of the present human condition. The key issue for my purpose involves the significance biologists give to this "natural" human condition. Bearing in mind that sociobiologists see the human condition as a product of prolonged adaptations to uncivilized conditions, this view could easily support arguments that object to using a traditional understanding of human nature as a basis for moral decisions. More importantly, however, depending upon how sociobiologists evaluate their revised understanding of the human condition, one will be

³²Ibid., pp. 56-57.

³³Ibid., p. 89.

predisposed toward or against remaking human nature. As it happens, there is a tendency among them to conceive of evolution in negative terms, and hence to lean toward genetic engineering. To see this, however, one must take notice of the ethical framework in which they are operating.

The scheme Wilson is developing is consistent with the overall approach of evolutionary ethics. This normative theory is a specific form of consequentialism in which the ultimate ethical end is the reproductive fitness of the species (or the individual). The behaviors that he takes to constitute human nature have survived over the eons are a result of their adaptiveness to the existing environment. Although Wilson himself does not explicitly recommend this ethical theory, he does come very close to prescribing it in his effort to exclude competing explanations of human activities. The thrust of his chapter on "Sex," for example, is to establish the sociobiological claim that "Diversity, and thus adaptability, explains why so many kinds of organisms bother with sexual reproduction."³⁴ He explains the genetic underpinning for a variety of sexual behaviors including prostitution, family life, and heterosexual and homosexual practices in accordance with that biological aim. He takes issue with the Judaeo-Christian explanation because it "misrepresents the biological significance of sex." Wilson, then, concludes: "All that we can surmise of humankind's genetic history argues for a more liberal sexual morality, in which sexual practices are to be regarded first as bonding devices and only sec-

³⁴On Human Nature, p. 123.

ond as means for procreation."³⁵ The reason he is able to do this is that these behaviors, as construed by sociobiologists, are conducive to reproductive fitness. Not all traditional practices are excluded on sociobiological grounds (viz., moral censure of prostitution), but this is only because those activities conform to the sociobiological standard, and not because they carry any independent merit on their own.

The force of his case rests with a conception of human nature that specifies what activities are, or are not, "natural" for human beings. Spelling out the notion of natural is as problematic for evolutionists as it is for natural law theorists. As we have just seen, in identifying those behaviors inherent to human nature Wilson relies on a principle of "the environment of evolutionary adaptiveness." This criterion is championed by Bowlby who, in referring to "natural" behaviors, examines the conditions prevailing at the time our adaptive mechanisms were selected for clues to deeper nature of our wants as they are rooted in natural impulses and wants.

The only relevant criterion by which to consider the natural adaptedness of any particular part of present day man's behavioral equipment is the degree to which and the way in which it might contribute to population survival in man's primeval environment, i.e., the one that man inhabited for two million years until changes of the past few thousand years led to the extraordinary variety of habitats he occupies today. . . . his environment of evolutionary adaptedness.³⁶

The difference between Bowlby and Wilson, however, is that Wilson's subjectivist approach to ethics leaves him with no reason to approve of

³⁵Ibid. p. 142.

³⁶Cited by Ronald de Sousa, "Arguments from Nature," in David Copp and David Zimmerman, eds., Morality, Reason, and Truth: New Essays on the foundations of Ethics (New York: Rowman & Allanheld, 1984), p. 178.

man's natural history. Whereas Bowlby is seeking to discover what is genuinely natural to human beings, Wilson is doubtful about whether the current state of human nature ought to continue to be acceptable once biotechnology becomes available. Indeed, the "scientific" understanding of the human condition suggests that positive form of eugenics is necessary in order for our natures to be made more consonant with the present non-agricultural environment. Evolutionary ethics can also serve as an important reason for questionable genetic interventions because certain behaviors understood in evolutionary terms are required by the consequentialist logic of the scheme in order to maximize reproductive fitness. Moreover, if biological evolution is no longer taking place, there is little reason for believing in the principles of natural selection, and sufficient reason to transcend our present biological estate by making it conform to our own individual aspirations and plans of life. On this point Wilson's rhetorical questions are quite suggestive:

Human genetics is now growing quickly along with all other branches of science. In time, much knowledge concerning the genetic foundation of social behavior will accumulate, and techniques may become available for altering gene complexes by molecular engineering The human species can change its own nature. What will it choose? Will it remain the same, teetering on a jerrybuilt foundation of partly obsolete Ice-Age adaptations? Or will it press on toward still higher intelligence and creativity, accompanied by a greater--or lesser--capacity for emotional response? New patterns of sociality could be installed in bits and pieces. It might be possible to imitate genetically the more nearly perfect nuclear family of the whitehanded gibbon or the harmonious sisterhoods of the honeybees.³⁷

The central questions are how much significance should be given to this explanatory system, and how credible are his descriptions of human nature? It is enough for present purposes to provide only cursory

³⁷On Human Nature, p. 208.

remarks in response to this question. The extent to which Wilson's view has a scientific basis, as he claims, is controversial. Compare his view with that of B. F. Skinner:

As a science of behavior adopts the strategy of physics and biology, the autonomous agent to which behavior has traditionally been attributed is replaced by the environment--the environment in which the species evolved and in which the behavior of the individual is shaped and maintained.³⁸

Wilson and Skinner both assert that their view is scientific. Both men appeal to the reductive methodological "strategy of physics and biology" to substantiate their claims. Furthermore, each approach eliminates "the mind," to use Wilson's phrase, or "the autonomous agent," in Skinner's words. The subjective dimensions of being human are gone from their models. Yet, the picture that results from Skinner's analysis is fundamentally different. For Wilson, man has a nature in the sense of an innate genetic endowment; whereas for Skinner, there is no nature, or if there is one, it is nothing more than a set of acquired dispositions conditioned from birth, and one that is so malleable it can be totally changed by altering one's social circumstances. One is confronted with two competing theories each with some empirical basis. In order to resolve the dispute, it is tempting to appeal to the facts and choose that theory which is better supported. This, however, is to simplistic of an approach.

In pursuing that approach, it soon becomes evident that each scientist has found it necessary to incorporate into his theory some features about human nature that are not accessible to observational

³⁸Beyond Freedom and Dignity (New York: Alfred A. Knopf, 1971), p. 184.

examination,³⁹ and these result in divergent conceptions of human nature. I have noted previously that Wilson views the uniformity of human behavior as the most significant "fact" when explaining the human. Thus, he gives it central importance in his explanations. Exceptions to these established patterns are either accommodated by the terms of sociobiology or ignored. Social influence becomes a secondary factor, and its effect is confined to the potentiality of human genes. By contrast, diversity of human behaviors is the primary "fact" for Skinner, and it is his focus upon this that leads him to explain human nature in terms of environmental conditioning. "People are extraordinarily different," writes Skinner, "in different places, and possibly just because of the places."⁴⁰ Fundamental to Skinner's case is the belief that human behaviors are acquired rather than adapted, and he thinks that explaining human nature in terms of genetic endowment is "dangerous."⁴¹ Throughout their discussions, however, each of these scientists argues that his explanations deal more adequately with the facts.

The picture which emerges from this disciplinary dispute suggests that the weight which each disputant gives to the facts greatly depends on the respective theory. More importantly, what counts as a "fact" is itself partly determined by the theoretical point of view. With regard to the special case of sociobiology, Wilson is often

³⁹For a detailed critique of Wilson on this point from the perspective of cultural anthropology, see Marvin Harris, "Sociobiology and Biological Reductionism," in Sociobiology Examined, ed., Ashley Montagu (New York: Oxford University Press, 1980), pp. 311-35.

⁴⁰Beyond Freedom and Dignity, p. 185.

⁴¹*Ibid.*, p. 196.

criticized because his view of human nature fails to conform rigidly to empirical testing.⁴² In particular, explanatory predictions deduced from the theory are readily falsified. Based on the assumption that there is some underlying genetic basis for the alleged uniformity of human behavior, one could reasonably expect that major cultural differences entail genetic divergence.⁴³ But this apparently is not the case. Wilson, however, is not unaware of this evidence; he instead chooses to give it less weight. His response to such charges would no doubt be framed in terms of the previously stated doctrine of development. He does not claim a rigid correspondence between genes and social behavior, as was implied by his doctrine of development. He is prepared to accept a wide array of behaviors for any given set of genes.

If these comments are correct, it is reasonable to conclude that scientific theories are not completely neutral toward the way in which they provide interpretations of the social world. Even sympathetic critics of Wilson recognize that in many respects sociobiological explanations are comparable to metaphysical reasoning, yet this should not necessarily prevent them from being considered

⁴²For a detailed criticism on this point from someone sympathetic to the falsificationalist view of science see Richard M. Burian, "A Methodological Critique of Sociobiology," in The Sociobiology Debate: Readings on Ethical and Scientific Issues, Arthur L. Caplan, ed., (New York: Harper and Rowe, 1978), pp. 381-84.

⁴³E. Allen, et al. "Sociobiology: A New Biological Determinism" in Sociobiology Study Group of Boston, eds., Biology as a Social Weapon (Burgess, Minneapolis, 1977), p. 27-28.

scientific.⁴⁴ On Human Nature is a discussion about the ideal of a particular approach to science that he refers to as "scientific materialism," a view that reduces all significantly human activities to biochemical interactions. Wilson frankly admits that "its core is a speculative essay" that provides an intellectual framework, a "mythology," as he calls it, for understanding the scientific ethos. Strictly speaking, many of his claims, of course, are exaggerated since he is unable to provide sufficient empirical evidence for his descriptions, and this will no doubt make some biologists uncomfortable. Although the sociobiological view of human nature is in principle falsifiable, but in practice remains unfalsified, it does not follow that it is a well-supported theory. This is a significant point to bear in mind when considering the weight that should be given to any sociobiological explanations that may conflict with ordinary moral beliefs.

I began this section by inquiring about how scientific knowledge of human biology might affect bioethical theory. Wilson sees it as fashioning what he calls a "biology of ethics," which he believes "will make possible the selection of a more deeply understood and enduring code of moral values."⁴⁵ On this, Davis and Wilson would, I think, concur. It should be obvious by now that the point of sociobiology is to provide a "scientific" (i.e. evolutionary) understanding of human

⁴⁴"Now in reply, metaphysical though this practice may be, I am not sure a priori that, for all that Sir Karl Popper says otherwise, as a practice, this position is so very objectionable--at least that speaking generally, it is non-scientific." Michael Ruse, Is Science Sexist: And Other Problems in the Biomedical Sciences (London: D. Reidel Publishing Co., 1981), p. 209.

⁴⁵On Human Nature, p. 196.

nature. To the extent that one views morality within the context of human needs and insists that ethical judgments must be supported by reasons that relate in some intelligible way to human well-being, it is necessary that all relevant beliefs regarding human nature and destiny be given due consideration in order to achieve an adequate understanding of morality. Given that sociobiologists see no reason, at least none that conforms to the ideal canons of scientific evidence, to rely on certain sociological or traditional insights regarding human nature, the role of biology takes on new significance. Biology, then, affects morality by placing moral beliefs within a different explanatory scheme of human behavior, and revising them so that they are coherent with other beliefs which are assumed to be more or less subject to observational tests.

In effect, biology provides a scientific foundation for emotivism, an ethical theory which holds that moral judgments are merely rationalizations of the manner in which one feels about a given behavior.

The biologist, who is concerned with questions of physiology and evolutionary history, realizes that self-knowledge is constrained and shaped by the emotional control centers in the hypothalamus and limbic system of the brain. These centers flood our consciousness with all the emotions--hate, love, guilt, fear and others--that are consulted by ethical philosophers who wish to intuit the standards of good and evil. What, we are then compelled to ask, made the hypothalamus and limbic system? They evolved by natural selection. That simple biological statement must be pursued to explain ethics . . . at all depths.⁴⁶

By turning to biology, one can discover what is truly consonant with human nature. Wilson holds, for instance, that an "innate moral

⁴⁶E. O. Wilson, Sociobiology: A New Synthesis (Cambridge: Harvard University Press, 1975), p. 3.

pluralism" as an approach to ethics is self-evident once one recognizes the many different ways in which traits have adapted or have been selected against by the natural selection of genes. Genes established by group selection will produce "altruistic" emotions, whereas those favored through individual selection will give rise to egoistic impulses. Homosexual behavior can be accounted for in evolutionary theory by showing its role in kin selection. Females who must bear children have a stronger genetic interest in durable relationships than do males because of the biological limitations of their reproductive system. The moral ambivalence arising from these and many other behaviors is the result of human genes, consequently, no single moral code can apply.

Furthermore, Wilson sees three "cardinal values" that are supported by a biology of ethics. First, there should be a greater appreciation for the interests of the "entire human species," rather than limiting our natural sympathies to our own welfare or that of our family and relatives. This follows from the evolutionary fact that our nature is formed from a common gene pool built up over hundreds of generations. An awareness that much of this nature was fixed by adaptations in primitive cultures in which selfish behavior was essential to survival will allow one to temper those impulses. Second, natural selection favors the individual, consequently, a correct application of evolutionary theory must recognize the significance of individual diversity. A third cardinal value supported by biology is universal human rights. Unlike insects who reproduce in groups, the human species reproduce individually. In a technological society, power is too fluid,

thus, there is a natural tendency to guard against inequalities and to promote liberty.

Biologists rather than philosophers, theologians, or for that matter anyone else, are the ultimate authorities in questions of morals; "the time has come for ethics to be removed temporarily from the hands of philosophers and biologized."⁴⁷ While Wilson concedes that his view is elitist, he, at least, does not think of it as oppressive. On several occasions, he claims that the social role of science is to promote freedom by enhancing a better knowledge of human nature by which to guide moral choices, and to provide "some measure of dominion over the physical environment." "Pure knowledge," says Wilson, "is the ultimate emancipator." This is the "true Promethean spirit of science." In this belief Wilson is clearly in the tradition of what some political commentators call "liberal rationalism".⁴⁸ It is certainly reminiscent of Rene Descartes' own justification of the social uses of scientific knowledge. Health, which is promoted through biomedical advances, is the "chief good and the foundation of all the other goods in this life":

It is true that medicine as currently practiced does not contain much of any significant use; but without intending to disparage it, I am sure there is no one, even among its practitioners, who would not admit that all we know in medicine is almost nothing in comparison with what remains to be known, and that we might free ourselves from innumerable diseases, both of the body and of the mind, and perhaps even from the infirmity of old age, if we had suffi-

⁴⁷Ibid.

⁴⁸Thomas A. Spragens, The Irony of Liberal Reason, (Chicago: University of Chicago Press, 1981).

cient knowledge of their causes and of all the remedies that nature has provided.⁴⁹

On a related issue, Wilson voices a sensitivity to the need for public discussion concerning the applications of genetic knowledge, for though natural selection is a blind guide he remains hopeful that future knowledge will make possible the "option of a democratically contrived eugenics."⁵⁰

Conclusion

What, then, is the effect of biology on the ethics of gene therapy? In addressing this question, it is possible to discern some general patterns characteristic of most sciences. First, biology provides an evolutionary framework of human nature. This explanatory system is used to reinterpret existing behaviors that are inconsistent with that scheme. Second, given this reconstruction, it may either sanction or undermine those practices that fail to conform to the overall scientific understanding of the human condition. The reason for this brings me to the final point. Against the background of a rigorous means-to-end pattern of reasoning whatever behavior is not conducive to the established goal (e.g., inclusive fitness) will be considered irrational. That is to say, behaviors that are conducive to maximizing reproductive fitness will be required; to the extent that genetic engineering can accomplish this task it too will be required. But science is not restricted to considering the means; by revising the

⁴⁹"Discourse on Method," Part VI, in John Cottingham, et al., trans., The Philosophical Writings of Descartes, vol. 1, (London: Cambridge University Press, 1985) p. 143.

⁵⁰On Human Nature, p. 198.

human condition, it also purports to provide a scientific foundation for the goal itself, even if that goal is an "innate moral pluralism" based on genetic diversity.

It remains an open question, however, as to whether the biological view of human nature is the most intellectually satisfying viewpoint. And, even if it is, society is still faced with whether to act in accordance with nature, or, as T. H. Huxley once said in his lectures on Evolution and Ethics, to "combat" the evolutionary process. The particular variety of humanism I have been discussing in this chapter points in the direction of an "anti-human nature" path of normative thought. The upshot of this position lends strong credence to broader applications of genetic engineering than is commonly supposed. On a strict reading of this form of consequentialism, genetic engineering in many cases will not only be permitted but required.

In my discussion on romanticism, we shall see that scientific humanism is not the only normative scheme that claims to juxtapose itself to nature. Although the intellectual history of romanticism is as difficult to trace as it is to define, one can divide the tradition along two general developmental lines. Early romantics, as exemplified by the nature poets, was "naturalists" because of their optimistic attitude toward discerning the meaning of human nature within nature. As Darwinian evolutionary thought steadily eroded the confidence that this project could be achieved, this attitude took a definite pessimistic turn. "Antinaturalist" romanticism was the result of insisting that the meaning to life could not be found in studying nature, indeed there was no such thing as human nature, rather significance had to be imposed on

it. Like their contemporary scientific skeptics, they, too, became "antinaturalist," emphatically urging that significance and meaning reside exclusively in individual autonomy and self-expression. It remains to be seen how this diverse tradition might shape the ethics of genetic intervention.

Chapter 3

ROMANTIC HUMANISM AND BIOMEDICAL ETHICS

Romanticism with its varying meanings of nature signifies a second current in contemporary thought affecting the ethics of genetic intervention. It would be a mistake, however, to conceive of the romantic attitude as leading to one distinct stance toward manipulation of the human genome. Romantic humanism has within it two strands of thought which at first sight do not fit well together. One is a stress on the individual, his preferences, projects, and plans of life with the underlying notion of values as imaginative creations. The other strand is a feeling for the unity with nature, the need to be at harmony with nature. Both emphases in fact characterize the Romantic movement as a historical phenomenon, yet it is not at all easy to reconcile them. The first current is typically "anti-nature" in its normative attitudes. Its proponents rebel against human nature, or at least certain interpretations of it. The second current is ethically "pro-nature," maintaining that goodness or badness are determined by adherence to the patterns read in nature. The aim of this chapter is to examine these normative emphases as they occur within the contemporary debate over genetic applications to human subjects. By doing so, I do not mean to suggest that either strand exists in pure form. Rather it is the tendencies of these themes considered in isolation that I am examining. Conceptual schemes are comprised of commitments, making ethical judgments a function of several considerations. The attitude toward nature

is a central feature, but not the only consideration to weigh. As with the discourse on scientific humanism, romantic humanism, too, should be considered as representative of an ideal type. Nevertheless, these tendencies are powerful in their suasive effect and in varying ways continue to be prevalent in bioethical debates.

I shall call the two general emphases in romantic experience "anti-naturalism" and "naturalism." The notion of nature can be either used as an evaluative or descriptive term; pro-nature and anti-nature each indicate a general attitude that one can take for or against the world that is describable by empirical investigation. Moreover, the concept of nature is essentially contested. On the one hand, romantics can hold that human nature has evolved in a manner that stresses the social attributes of cooperation, harmony, peace, and welfare with the implication being that these attributes ought to be further developed. On the other hand, Friedrich Nietzsche thought that sympathy, humility, love, cooperation are unnatural character traits precisely because they were conditioned by a social environment that was largely Christian.¹ Given these opposite extremes, the norm of following nature by itself seems to provide no guidance. It is evident that any understanding of what behaviors are natural for human beings cannot be based on the simple biology of physiological processes. Nevertheless, this notion has and continues to play an influential role in intellectual thought. The normative uses to which the various ideas of nature have been illustrated by Carl Becker:

¹A helpful discussion of the norm "follow nature" is presented by John Hospers Human Conduct (New York: Harcourt, Brace, Jovanovich, 1972). pp. 93-103.

Aristotle justified slavery on the ground that it was in accord with nature. The stoic emperor, Marcus Aurelius, understood that "nothing is evil which is according to Nature." Roman jurists endeavored to reconcile positive law with the law of nature and right reason. Thomas Aquinas knew that the "participation of the eternal law in the rational creature is called the natural law." According to Calvin, "Natural equity . . . demands that princes be armed . . . to defend the subjects committed to their care whenever they are hostilely assailed."²

My interest is with romanticism; thus, it will be helpful to explore the recent intellectual history of that tradition to better understand its diversity.

The Polarity of the Concept of Nature within Romanticism

A general reading of several nineteenth century intellectual histories point to a general theme that is, I believe, helpful in explaining the very diverse polarity in the romantic movement with respect to the concept of nature, and indeed human nature.³ My thesis is this: So long as nature was thought to have a teleological feature which could provide guidance to the meaning of life independent of human vagary and custom, the discerning mind could continue to rely on the dictates of conscience in making authoritative judgments about how humankind ought to be treated and what it should become. This pro-nature frame of reference was one that was commonly shared not only by Christians, who alone maintained the division between the natural and supernatural realms, but romantics and scientists alike, who did not

²Carl Becker, The Heavenly City of the Eighteenth-Century Philosophers (New Haven: Yale University Press, 1932), p. 53.

³Gertrude Himmelfarb, Victorian Minds (New York: Alfred A. Knopf, 1968); A. O. J. Cockshut, The Unbelievers, (London: Collins, 1964); John Weightman, The Concept of the Avant-Garde, (LaSalle, Illinois: Library Press, 1973).

embrace that theological distinction. By today's scientific standards, one could say that there was a massive naive confidence in Nature.⁴ It was entirely consistent with this commitment that the task of understanding human nature should devolve increasingly with the scientific pursuit. This scheme began to break down for several reasons, the acceptance of evolution being the more prominent among them. The loss of confidence was felt broadly but no more acutely than among romantics, who with the loss of nature as an authoritative concept began to turn inward and locate meaning to life subjectively within the individual rather than in the external world. This movement was assisted by an emerging notion of autonomy of the individual that sought first and foremost to protect the integrity of inner life from the intrusiveness of society, religion, and science. The individual must be a rebel against custom and a creator of one's own "Nature." Moreover, as is still fashionable, the way of life or qualities of character one chooses to cultivate is simply and ultimately a matter of personal taste, not rational deliberation. In the intellectual climate, the romantic can proclaim with the naturalist Byron "I love not man the less but Nature more," or assert with the anti-naturalist Oscar Wilde "The first duty in life is to be as artificial as possible," and remain squarely within the romantic movement. In each case, the romantic is pursuing a form of life thought to be natural and authentic to one's perceived form of being. With respect to the avant-garde, however, the total disgust for terms like "human nature" are rooted not only in its

⁴Since "nature" will be used to convey both evaluative and descriptive meanings, I will use the capitalized form 'Nature' to indicate its evaluative sense.

suggestion of commonality among humankind, but as we have just seen, in the traits that are said to define it. And that is largely because thinkers had in the past strictly equated moral principles with empirical descriptions of human nature, instead of seeing that much of what is esteemed in human nature went beyond mere natural processes. As evolutionary theory made this empirical strategy increasingly unsatisfactory from the normative point of view, attitudes toward nature shifted from optimism to introverted pessimism, and in some cases nihilism.

The thesis I am expounding has been taken up in Joseph Warren Beach's fascinating study, The Concept of Nature in Nineteenth Century English Poetry.⁵ Several of the romantic poets who were distinguished for their philosophical astuteness, contended that the romantic concept of nature has features taken from both scientific and religious currents prevalent during the romantic period. These features were held in equilibrium by the mediation of a latent metaphysic that was largely religious. This state of equilibrium, however, was at best precarious and unstable, being constantly threatened by intellectual challenges from one or the other of the elements. In the romantic period of the early nineteenth century, the preponderance of the weight tilted the balance toward the religious element; in the ensuing Victorian era the scientific element lead to a dissolution. The religious metaphysic that had been able to hold the two elements in tension in the previous eras was itself under attack by both romantic and scientific naturalisms. However, no metaphysic proved subtle enough to keep these rival forces

⁵Joseph Warren Beach, The Concept of Nature in Nineteenth Century English Poetry (New York: Paganant Books, 1956).

pulling together, a necessity if Nature was to remain in a form satisfactory to the romantic mind. Under the influence of romantic naturalism, Nature re-emerged fully personified in the form of transcendentalism, while the assault from scientific naturalism transformed the idea into a form useful to evolutionary positivism.

The philosophical and scientific notions of order and regularity fit well in the romantic scheme which presumed the universe to be purposive, harmonious, and largely benevolent toward man. This view was also assisted by the theistic strand of thought that order and regularity was attributable to providential design by a good and intelligent Deity. "The two views are not sharply distinguishable," according to Beach, "but run over into one another; though it is sufficiently clear that the religious view is the more primary and is latently present in the other even when not recognized."⁶ This made it easy to ignore the religious framework and even sever it from theistic strands of thought. Beach continues by pointing out the importance of a latently held theistic metaphysical assumption for maintaining the delicate balance between intellectual elements necessary for a romantic notion of nature, even for those who were purportedly unbelievers:

But still the word nature kept a strong tincture from its religious origins. One could not be a "worshiper of nature" without retaining much of the sentiment of religion, and without making, consciously or tacitly, assumptions which are in essence religious. Such was the assurance of the purposiveness and benevolence of nature which continued to prevail among poets of the nineteenth century, some of whom were militantly anti-Christian in their tone.⁷

⁶Ibid., p. 4.

⁷Ibid., p. 6.

Although it continues to be a matter of some dispute, the theistic metaphysic is, arguably, necessary for maintaining an intelligible framework for a notion of nature that is both morally and aesthetically satisfactory. But, the theological metaphysic is essential to engendering the appropriate emotional response, as well. This is not to say that there were no competing secular explanations, but rather that theism was the most adequate to sustain those features. So long as the basic framework was intact, and indistinguishable from the scientific interpretation of the world, romantic poets could have it both ways. They could use science to explain away the theoretical relevance of theistic beliefs about a providentially designed nature, while taking for granted that its decay would have no serious effect on the formative moral and aesthetic sentiments. And for that moment at least, it may have looked as if they were right. But Beach's conclusion points in a different direction that "presents the picture of a brave and massive effort of the human spirit doomed to failure in the end. It takes on . . . the aspect of a heroic tragedy, of which the protagonist is the poetic concept of nature, shown in triumph and in defeat."⁸

By taking full confidence in a view of Nature that placed greater importance on its scientific rather than religious resources, the romantic was being set up for a fall. The notion of "purposeness" essential to providing guidance to moral life that had once occasioned an optimistic attitude toward nature would eventually dissipate with the failure of science to explain in a sufficient manner the teleological aspect of human nature which romantics hoped to salvage from religion.

⁸Ibid., p. 16.

Yet without the theistic metaphysic, religious explanations were impotent; and with that, the entire poetic framework would collapse of its own weight. Widespread disgust for the idea of science, the onetime ally of romanticism, would ensue with malice so that later writers of the nineteenth century would be characterized as taking up a wholly pessimistic attitude toward nature and the moral order. Those who continued to take confidence in such notions would be stigmatized for promoting superstition. Some scholars have traced the origins of the avant-garde to this intellectual climate. As Weightman points out, the phenomenon of the avant-garde owes its existence to the hope of the Enlightenment of achieving a scientific definition of human nature that has become increasing illusory:

Consequently it would take a very confident man today to echo the line from Terence which was a slogan of the 19th century humanism: Homo sum, humani nihil a me alienum puto. In other words, as some modern thinkers--particularly French ones--like to put it, the death of God is now being followed by the death of Man. . . . The sheer fact of living in time becomes then an existential anguish, because history is no more than a succession of moments, all in a way equally valid or invalid, and human nature ceases to be a unifying concept and is no more than the name we give to the successive appearances of man.⁹

Thus, the paradox of a movement that has now taken on the air of anti-science had its origins in the development of modern science.

It is misleading, then, in seeking to chart a contemporary romantic response to genetic engineering, to limit one's attention to the "pro-nature" anti-science attitude, though it is certainly the most resistant

⁹The Concept of the Avant-Garde, p. 30.

to scientific accommodation.¹⁰ If my discussion of the general romantic milieu is correct romanticism would appear to take one of two general paths. One I will call the "pro-nature" response in order to capture the optimistic confidence in nature. The other I will refer to as the anti-nature, or perhaps more properly, the "avant-garde", response, bearing in mind that it does not espouse that the natural processes of the world external to the individual self lead progressively to any significant human end. Both positions are normative in their orientation.

The Pro-Nature Response to Genetic Intervention

One might have thought that the passing of the counterculture movement of the recent decades meant that romanticism had passed entirely off the scene. But the trend toward naturalizing medicine and "low-technology" continues to be influential in reforming contemporary health care."¹¹ Whatever the connection between the underpinnings for the counterculture and contemporary resistance to genetic intervention, there is embedded within our social consciousness a certain ambivalence, a concern that civilization is much too quickly endorsing the manipulation of the human genome. Jeremy Rifkin, President of the Future for Economic Trends, is perhaps the most articulate among those who warn against wholesale endorsements of the genetic experimentation with human subjects. The most striking feature in Rifkin's position is his empha-

¹⁰This is a minor quibble that I have with Robert Veatch's essay "Doing What Comes Naturally: The Dangers of Anti-Technological Romanticism" The Hastings Center Report 1 no. 2 (September 1971), pp. 1-2.

¹¹For example, holistic medicine can be read as a "natural" development of the pastoral mood of romanticism. Loretta Kopelman and John Moskop set out the basic positions of this movement.

sis on nature, and the manner in which the total consequences of this conception changes his whole mind and imagination about man's relationship toward it. Rifkin is at odds with the scientific attitude because it considers nature as something that can be manipulated at will for the service of mankind. Instead he stresses the "cooperation" with and "participation" in nature. These divergent attitudes are the result of fundamentally different systems of thought that affect judgments about morality of genetic engineering. Rifkin reflects this division in the language he uses to talk about nature:

From a world teeming with life, a world spontaneous, unpredictable, dynamic, rhapsodizing, we descend to a world stocked with living gadgets and devices, a world running smoothly, effortlessly, quietly, without feeling. In the end, it is companionship we give up, the companionship with other life that is at once both and essential, and without which existence becomes a meaningless exercise.¹²

The world that Rifkin inhabits is quite distinct from the artificially contrived world of the biotechnologist with its "living gadgets and devices." Rifkin sees nature as a companion. He relates to nature through his feelings instead of his intellect. His relationship is immediate not abstract and manipulative. He is impressed by what seems at times to be its personal attributes of spontaneity, unpredictability, and dynamism. The world of the scientist is different; there nature, both nonliving and living, is reduced to fixed causal laws which focus on the regularity and order, and exclude precisely those attributes that Rifkin sees as most attractive. Rifkin does not merely approach nature with the interest of a gardener or farmer, his appreciation is aesthetic (and perhaps religious) in character.

¹²Ibid., p. 252.

Pastoralism as a romantic norm. In this Rifkin aligns himself with pastoralism, a normative view of nature that if not unique to the romantic movement is surely typical of it. His yearning for a world unmarked by the impress of man is nowhere better expressed than in the stanza of Byron, the nineteenth century romantic, taken from his "Childe Harold":

There is a pleasure in the pathless woods,
 There is a rapture on the lonely shore,
 There is society where none intrudes,
 By the deep Sea, and music in its roar:
 I love not Man the less, but Nature more,
 From these our interviews, in which I steal
 From all I may be or have been before,
 To mingle with the Universe, and feel
 What I can ne'er express, yet cannot all conceal.¹³

Byron is not writing as a philosopher making fine distinctions; rather, he is writing as a poet, but the copious profusion of imagery helps to identify the centrality that the concept of nature has within the complex web of the romantic scheme. It makes picturesque the romantic passion for the wild and sublime scenery. He exhibits an intimate consciousness of the expression of natural things, waiting, listening, penetrating what the scientific mind passes roughly by. Like Byron, who seeks repose in the "pathless woods" and "lonely shore," Rifkin, too, shows his appreciation for uncultivated nature. His desire to be a companion with nature seems but a synoptic way of describing Byron's "mingling with the universe." Both men agree that this type of relationship is not one of knowledge, but feeling. Indeed, it is even a mystical experience, for both men find it impossible to express in words what

¹³Byron, "Childe Harold's Pilgrimage," Canto III, Stanza XCI, in Joseph W. Beach, The Concept of Nature in Nineteenth - Century English Poetry (New York, 1936), p. 35.

nature evokes in their hearts. There can be no doubt that each man has a reverence for nature that the scientific view seems unable to accommodate, or so they believe.

Given this conception of nature, we can begin to catch a glimpse of why Rifkin resists all attempts to alter biological nature. The romantic is driven by his intimate bond with nature to conceive of it as a benevolent force. Just as one friend would not attempt to manipulate or control another, so, too, nature is not to be tampered with. Furthermore, the romantic is not inclined to talk as though one's endowments were the result of a "natural lottery." Unlike the scientist, who relates to nature at a reflective and indirect level, the romantic is intimately and passionately tied to nature, so that concepts like 'chance' and 'lottery' are foreign to his outlook.

In this same vein of thought, romantics typically adopt a pantheistic view of nature, though Rifkin seems at best only to flirt with the idea when he asks us to imagine our response if we suddenly realized that humans were made for the cosmos. He, of course, may have nothing more in mind than a sort of "golden rule" argument applied to nature. Nevertheless, it is characteristic of romantic thought to ascribe divine being to nature. Coleridge, for instance, seemed to see and hear in nature

The lovely shapes and sounds intelligible
Of that eternal language, which thy God
Utters, who from eternity doth teach
Himself in all, and all things in himself.¹⁴

¹⁴Samuel Taylor Coleridge, "Frost at Midnight," in Lillian R. Furst, Romanticism in Perspective (New York: St. Martin, 1969), p. 69.

the molecular biologist is subverting, or as Rifkin puts it, quoting Schiller approvingly, "disgodd[ing]," nature.¹⁵ To alter nature is in a sense "playing god" by assuming a role that does not belong to man, but to Nature. In this attitude one can discern a further identification between the Divine and the natural world.

Byron's pastoralism also possesses an additional feature in which society with its contrived values and customs intrudes into personal life. It is this feature that moves pastoralism closer toward an ethical rather than simply an aesthetic value. In the "pathless woods" man can escape all sorts of corrupting influences. The position has been described with characteristic vigor by Keith Thomas:

By the later eighteenth century the appreciation of nature, and particularly wild nature, had been converted into a sort of religious act. Nature was not only beautiful; it was morally healing. The value of the wilderness was not just negative; it did not merely provide a place of privacy, and opportunity for self-examination and private reverie (which was an ancient idea); it had a more positive role, exercising a beneficent spiritual power over man. "All the noblest convictions and confidences of religion," declared Archibald Alison, "may be acquired in the simple school of nature." The feeling of awe, terror and exultation, once reserved for God, was gradually transposed to the expanded cosmos revealed by the astronomers and to the loftiest objects discovered by explorers on earth: mountains, oceans, deserts and tropical forests. The inhabitants of mountain areas ceased to be universally despised for their barbarism; instead they were praised for their innocence and simplicity.¹⁶

Bearing in mind Thomas' portrayal of nature as "morally healing," as was common among romantic thinkers of this period, it is not surprising that Byron could say, as he does in his celebrated line: "I love not Man

¹⁵Jeremy Rifkin, Algeny (New York: The Viking Press, 1983), p. 51.

¹⁶Keith Thomas, Man and the Natural World: A History of Modern Sensibility (New York: Pantheon Books, 1983) p. 260.

the less, but Nature more." In romanticism, Nature has become the ground of being.

Primitivism as a romantic norm. There are also hints of primitivism in these lines by Byron, a way of conceiving Nature as a normative standard so that the primitive condition of man becomes a social and ethical ideal. Arthur O. Lovejoy and George Boas, document the origins of primitivism, tracing it back to the early classical period in the diverse meanings attached to the phrase "state of nature":

By virtue of its original signification, 'nature' suggested the condition in which human society existed at its genesis; if, then, that which is 'by nature' is eo ipso the best or the normal condition, the primeval state of man must have been his normal and best state. But this implication was greatly re-enforced by the sense of 'nature' as that which is not made by man, not due to his contrivance, and the associated assumption that 'nature'--as a quasi-divine power--does all things better than man. Cultural as well as chronological primitivism thus seemed to be in accord with the norm of 'nature'; all man's alterations of or additions to the 'natural' order of things are changes for the worse.¹⁷

These ideas gave rise to the stoic ideal of simple life often associated with the country. Accordingly, it is not difficult to see how this aspect of nature could be fused into the fabric of romantic thought, and enrich what they already conceived as an aesthetic achievement rather than a datum. Even the most casual reading of romantic literature cannot fail to notice how they make critical use of primitivism in their contrasts between town and country.

In this development, Rousseau is a turning-point. His "return to nature" continues to be widely celebrated. This attitude is a direct consequence of his penchant for untamed nature accompanied by a

¹⁷Primitivism and Related Ideas in Antiquity (Baltimore: John Hopkins, 1935), pp. 241-42.

sensibility to see the primitive natural state as having the capacity to restore moral health. Rousseau cast doubt on Hobbes' state of nature in which natural man's temperament was thought to be nasty, brutish and short; where he was motivated by selfishness; and, where it was "war of all against all." These intellectual influences shape Rousseau's commitment to primitivism, setting up natural man as an ethical ideal:

Hence although men had become less forbearing, and although natural pity had already undergone some alteration, this period of the development of human faculties, maintaining a middle position between the indolence of our primitive state and the petulant activity of our egocentrism, must have been the happiest and most durable epoch.¹⁸

There is some confusion as to the degree to which Rousseau is prepared to idealize the primitive savage.¹⁹ Here he is singling out that stage in human development which is just prior to civil man. He is not referring to the brute who had not as yet acquired a language; he does admire this level of innocence and simplicity. It is the latter transcendentalists such as Thoreau who showed an attraction for more extreme views of the savage. The noble savage is one who exhibited a higher level of sophistication than the good natured brute, who remains imbued with sympathy, though more discriminating, but who has not yet succumb to the petulant drive for self-esteem and avarice as has the civilized counterpart. These corruptions in character originate with the notions of property, and envy which civilized man has not yet acquired.

¹⁸Jean-Jacques Rousseau, Discourse on the Origin and Foundations of the Inequality Among Men, reprint (Indianapolis; Hackett Publishing Company, 1983), p. 145.

¹⁹Arthur O. Lovejoy, "The Supposed Primitivism of Rousseau's Discourse on Inequality," in Essays in the History of Ideas (Baltimore: Johns Hopkins University Press, 1948), pp. 14-37.

Rousseau's ethical conception of nature is of first importance in understanding his moral theory. In a sense, nature is morally therapeutic for it cures man of the corruptions instilled into his being through the forces inherent within communal living.

Thus it is that natural inequality imperceptibly manifests itself together with inequality occasioned by the socialization process. Thus it is that the differences among men, developed by those of circumstances, make themselves more noticeable, more permanent in their effects, and begin to influence the fate of private individuals in the same proportion.²⁰

Through its own mysterious processes, it restores him to the state of natural innocence and pity. Rousseau, of course, believes there are "natural or physical inequalities" among primitive men which "consists in the difference of age, health, bodily strength, and qualities of mind or soul."²¹ But, these are "hardly observable in the state of nature, and that its influence there is almost non-existent."²² It is only as the noble savage turns from his natural inclinations and environment by using his reason to reflect upon the advantages these physical disparities does he become sick.

Rousseau, however, is confident that Nature possesses the medicine to cure individuals of that disease. In the state of nature, natural inequalities are imperceptible. But I am suggesting that this is the case because of his conception of nature. This assumes that there is nothing inherently harmful about natural differences, such as health, among men. This is acceptable only if one first adopts the premise that

²⁰"Discourse on Inequality," p. 147.

²¹Ibid., 117.

²²Ibid., 139.

the natural state as Rousseau defines it is an ideal. That in turn will depend to a large extent on the manner in which one conceives of nature. It seems that the medical researcher, who has a tendency to conceive of nature in a different manner than the romantic, would take issue with Rousseau's fundamental pastoral leanings. Indeed within the clinical practice of medicine there is an emerging new purpose which seeks to control one's natural endowments, and this goal could easily receive further support from the view that takes natural talents as a source of social inequalities. In this scheme, 'therapy' takes on new meaning. The focus becomes one of restoring health by alleviating or mitigating natural inequalities, which implies control over our natural endowments governing significant human activities. Because genetic differences contribute to inequalities among civilized man, it would not require an illogical leap to conclude that removing these natural inequalities will restore one's health within society. This inference, for instance, is implicitly articulated in the Preamble to the Constitution of the World Health Organization: "Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity."²³

I have raised the issue of primitivism for two reasons. First, it is my contention that the significance one gives to the concept of nature affects one's judgments about the morality of genetic intervention, as well as the appropriate qualities for manipulation. The doctrine of primitivism that romantics espouse is ambiguous in regard to

²³"Preamble to the Constitution of the World Health Organization," in Thomas A. Mappes and Jane S. Zembatz Biomedical Ethics (New York: McGraw-Hill, 1981), p. 203.

its recommendations. It can either help explain their resistance to alter nature, attaching importance to the present state of human dispositions, or be used as a normative principle of reform, designating that the older behaviors untouched by society are the preferred traits. The specific behaviors (e.g., selfishness or sympathy) that are thought to be exemplary of the desired primitive state remain a matter of some dispute. Second, I want to point out that Rifkin also shows signs that he, too, embraces this normative doctrine, and seemingly takes it to prohibit most types of genetic intervention.

Instead of using the contrast between the vices of society and the virtues of the country, Rifkin uses the contrast between pretechnological and technological man:

While cosmologies have been an essential feature of human societies from time immemorial, it is necessary to draw a critical distinction between the way pretechnological cultures conceive of nature and the way technological cultures do. In pretechnological cultures people's relationship with nature is still participatory and intimate. Because people's ability to manipulate and redirect nature is slight, their overriding preoccupation is with fitting into the world as it is. . . . In pretechnological cultures, the cosmologies tend to express the idea of partnership and cooperation between people and nature As human beings begin to develop the mechanical arts, their relationship to nature changes and so too do their cosmologies. . . . Technology allows humanity to create distance between itself and nature. Technology also gives people power to redirect nature, to channel its forces in new ways. . . . The mechanical arts fundamentally alter people's relationship to their environment. The participatory, intimate union of people and nature is slowly undermined, until it finally ruptures.²⁴

From the tone and language of this contrast, we can infer that Rifkin prefers as an ideal a more primitive pretechnological culture. His reason is that those who are less reflective conceive and treat nature in a manner that Rifkin takes as morally acceptable. "Our respect and

²⁴Algeny, p. 41.

reverence for nature," he laments, "diminishes as we gain greater control over it."²⁵ He makes a similar contrast between the primitive age of pyrotechnology and biotechnology, deploring the manner in which the biotechnologist objectifies subjects of research, and "drains all living things of their aliveness."²⁶ Furthermore, Rifkin follows Rousseau in alleging that the social conscience is corrupt and propagates the view that the relationship between man and nature is technological in character. He thinks of morality as limited to social conventions, and thus it becomes "humanity's chief accomplice in the appropriation of nature":

In reality, . . . ethics are designed to be compatible with the way people organize the world around them. Moral codes keep people's future behavior in line with the way the society goes about organizing and assimilating its environment.²⁷

Rifkin's case against genetic therapy is a special case of his repudiating the scientific and technological orientation which he believes has become deeply entrenched in the popular conscience. This response is direct consequence of his romantic attitude toward nature. In the same way that scientists through their technical capacities objectify nature and fail to appreciate its spontaneous and unpredictable qualities, so also do the biotechnologists objectify human creatures and fail to appreciate their uniqueness and precious value. What Rifkin calls "the new ethics" has four premises:

1. That the vital needs of human existence (i.e. the hope of immortality and security, etc.) are biotechnical in character. Real problems of the human condition have a biotechnical solution. Accordingly, "bioengineering is coming to us not as a threat but as a promise; not as a punishment but as a gift."

²⁵Ibid., p. 51.

²⁶Ibid., p. 228.

²⁷Ibid., p. 54.

2. That the reason for thinking that the problems of human existence can be settled by genetic engineering is because the experts and the popular culture share the common scientific outlook and moral values.
3. That given this scientific outlook there is no logical distinction between repairing genetic defects and improving the species.
4. That the logical consequence of genetic engineering is a "trading away of our humanity."²⁸

As to the precise characterization of the diverse beliefs about the morality of genetic intervention in modern society there is some embellishment in Rifkin's four premises, but it cannot be denied that there is an increasing public approval for genetic engineering.²⁹ Likewise, though there is some exaggeration about what clinical geneticists see as the possibilities for the present state of technology, it is scarcely a parody of the ideals of a scientifically oriented world view. While it is certainly true that biologists today are reluctant to speculate about the future, and consciously limit discussions to what can be actually accomplished in the laboratory, one cannot forget the enthusiasm that many of them expressed less than a generation ago about the prospects of recombinant DNA. Their change in tone has only come, I suggest, by reflecting on these testimonies and becoming familiar with the warnings of George Orwell's 1984 and Julian Huxley's Brave New World.

Having said that, I think that Rifkin's attitude with respect to gene therapy is a combination, possibly a muddle, of three different things. First, if I am correct in seeing in his argument strands of

²⁸Algeny, passim, esp. pp. 223-255.

²⁹Alan L. Otten, "In Poll about Genes, Most Say That Ends Often Justify Means," Wall Street Journal (May 28, 1987).

pastoralism and primitivism, then his own ethical position on applying genetic medicine is confusing. Pastoralism has as its ideal "untamed or wild" nature. "Natural" in this sense has the normative force of seeking, wherever one can find it, a human nature that ought to be whatever it happens to be, untouched by the hands of mankind. At times this might square with a simplistic view that refused under any circumstance to tamper with the human genome, especially for political reasons--but not always, and certainly not necessarily. It appears that ultimately Rifkin is reacting to an antiquated view of evolutionary theory known as Social Darwinism that approves of social inequalities within society, and is willing to violate human freedom to achieve that goal.

Second, primitivism sees human beings as they happen to be and claims that this state is an unnatural development resulting from social, and hence an artificial contrivance. Genetic engineering, whether in its negative or positive form, either of which Rifkin seemingly wants to avoid, is equally compatible with this norm in order to bring about a better fit between what is and what ought to be the ideal for human nature. After reading Algeny, one is still left wondering whether or not Rifkin would propose genetic interventions to modify natural processes that now occur as a result of adaptation, and produce, in his view, a human specimen that mirrors its more primitive state. Alternately, Rifkin, in accordance with pastoralism, might be recommending no manipulations of the genetic endowment whatsoever. The ambiguity in applying these principles comes about because Nature is a normative concept, hence, its interpretation requires assistance from other commitments in the overall scheme.

Alternately, Rifkin, in accordance with pastoralism, might be recommending no manipulations of the genetic endowment whatsoever. The ambiguity in applying these principles comes about because Nature is a normative concept, hence, its interpretation requires assistance from other commitments in the overall scheme.

Third, and most important, Rifkin fails to give due attention to the medical context in which disease and pain are realities. Only a thoroughgoing pantheist can explain away suffering as in some sense illusory. But for the traditional conscience, a denial of the reality of evil does not eliminate the presence of evil. In short, the whole idea of pastoralism and primitivism is an attempt to rethink creation, leaving out evil. Taken together these three considerations cast considerable doubt on the credibility of Rifkin's view.

The Anti-Nature Response to Genetic
Intervention: the Avant-Garde Concerns about
Newly Emerging Biotechnologies

In this section, I want to focus on the second historical moment in romantic experience as I presented it in summary fashion in the opening remarks of this chapter. The distinctive feature of this experience is its repudiation of human nature as a phenomenon that can be used to discover the meaning of life. The attitude is expressed in terms of an elusive self-transcending human nature. Individuals, on this view, are self-creators who can fashion themselves according to their own tastes. That we have a nature is seen as a weakness of the human condition. The whole orientation is anti-naturalistic not only in the sense that it rejects natural tendencies and impulses as a norm for ethical behavior, but that it devalues the human nature generally.

expression."³⁰ It is characteristic of the genuinely independent spirit to wistfully engage in self-display through acting out a variety of concrete and imaginative forms of life. There are no limits here; the ego is boundless; personality is a potential of infinite possibilities. Furthermore, more than one imaginative self may be interwoven into a picture of life, or there may be a single self found as a common thread running throughout an entire life plan. These images can be transitory or enduring, depending upon the actor's preference for diversity or continuity. In any case, the romantic response to scientific medicine is largely imaginative; it seizes on aspects of scientific rationalism and exploits them in its revolt against that whole way of life. The harsh anti-scientific rhetoric is only the negative part of the romantic critique, the other more positive part fabricates a lucid vision of a life that could be. The romantic siege, then, is not directed through formal argument. Its aim is not to appeal to reason, which is seen as mimicking the larger social order, but to incite feelings that empower action. The complaints consist of a loss of expression rather than cognitive inadequacies. The romantic longs for a world that could be, might have been, or is irrecoverable. However, what is most frustrating from the perspective of the avant-garde is that he must finally express his protests through the forms of life and modes of language that society provides; for he, too, is a cultural being.

³⁰Morality: Religious and Secular, (Oxford: Clarendon Press, 1980), p. 30.

Romanticism and the anti-science protest. The romantic revolt against scientific medicine and the institutional structure on which it thrives is not unique. It is rather a scene within a larger play. What is now going on in research of medicine and health care generally is simply a special instance of what has been going on within other disciplines and institutional settings since the enlightenment period. Not all scientific attitudes, however, are incompatible with every romantic concern. Indeed scientific experimentation is the embodiment of creativity, and that creative element has been enough historically to show an attraction between the two forms of humanism. John Weightman, in his work on the concept of the avant-garde, traces its source back to the scientific revolution.³¹ Basil Mitchell also notes this common origin in his comparison between the scientist and the artist:

But scientists themselves are in a position to develop a cumulative understanding of the natural world, whereas artists enjoy no such opportunity. The artist may, significantly, engage in constant 'experiment', but there are no accepted means of validating his results. Romantic humanism, therefore, takes over the creative, but not the critical, emphasis of science.³²

More recently, however, the methods and explanations of scientific medicine have been held to undermine the romantic quest for autonomy. By scientific medicine, I have in mind the reductionist model. Reductionist medicine is a strategy that studies disease pathology at its lowest level of biological structure; it analyzes an organism into its smallest components. These elements are described in terms of biochemistry and molecular biological language. Reductionism is the

³¹The Concept of the Avant-Garde, p. 20.

³²Morality: Religious and Secular, p. 30.

dominant model for biomedical research. The thrust of the romantic attack is directed at the biological determinism which this methodology suggests. It is important to point out that in many respects, genetics is paradigmatic of the biomedical sciences because it exemplifies the reductionist strategy. Its basic laws are analogous to the most fundamental scientific laws of physics, which places them at the lowest level in the hierarchy of the sciences. A gene, or a constellation of genes, provides an underlying rationale for a disease, thus functioning as a causal explanation. But even on this model it is still possible to inquire about the effect of the environment in bringing about mutations or the role of social behavior in influencing the genome.

The essence of the romantic protest against contemporary medicine rests with its perceived tendency to suppress self-expression. Given this outlook, the Promethean spirit of science that E. O. Wilson relies on "to liberate man by giving him knowledge and some measure of dominion over the physical environment" is not only understood as arrogance but is ethically reprehensible as well. To govern one's life by the principle of efficient means to an end only places new shackles on the free-floating soul. The point of contention is over whether or not science is a genuine form of liberation. The responses are strikingly different. Jacques Barzun's romantic censure of the optimism characteristic of sociobiologists is typical of the gaping distance between the scientist and romantic. He complains that all one learns from science is the lesson of "human helplessness directly proportional

to human 'control over nature'."³³ This same question is an issue in contemporary medicine, too. Individuals like Illich and Rifkin perceive the emphasis on biomedical science as necessarily stifling human responses to pain and suffering through applying biotechnologies which do not significantly increase patient autonomy, and even decrease independence for the terminally ill; by diagnoses which inadequately take account of the human condition; or through communicating in technical language remote from everyday experience, which creates a situation where the patient is considered as incompetent to make medical judgments that affect his or her well-being. The scientific ethos has as its ideals objectivity, impersonality, universality, deliberation and predictability. The orientation of these ideas is directed away from everything that is personal and affective.

Ivan Illich is perhaps most notable in this regard for his scathing indictment of contemporary medicine. The very title of his book Medical Nemesis,³⁴ alerts the reader to the sharp contrast drawn between his own perspective and the prevailing belief in medical progress. In his own words, "the medical establishment has become a major threat to health."³⁵ According to Illich, medical progress is nothing more than "hygienic hubris."³⁶ The subtitle of his book "The Expropriation of Health" reveals even more of his sentiments about the way in which

³³Science: The Glorious Entertainment (London: Secker and Warburg, 1964), p. 5.

³⁴Ivan Illich, Medical Nemesis: The Expropriation of Health (New York: Pantheon Books, 1976).

³⁵*Ibid.*, p. 3.

³⁶*Ibid.*, p. 35.

applications of biomedical technology have thoroughly undermined medical care. The nemesis to which he refers is a cultural phenomenon, which he believes constitutes a "new epidemic," created by extending scientific modes of thinking and practice into the medical context. His general thesis can be tersely stated: The infusion of scientific thinking into medicine was intended to enhance medical care by making it more effective in alleviating suffering and disease, but it has instead engrossed all modes of thinking, shifting the social conscience away from the true aim of medicine, and subordinated all other considerations that he thinks are essential to the art of doctoring. He further maintains that the scientific intrusion into medicine has created new injuries, generated new illnesses, exploited the patient's vulnerability, and, more important, it has produced novel forms of human dependency on technological assistance. The effect of our contemporary health crisis has so profoundly altered our entire social and cultural orientation through a social process called medicalization that he has expanded the concept of "iatrogenic" disease to apply to the entire medical establishment as the real pathogenic agent. In short, he laments the loss of health that has come about through modern medicine.

Illich acknowledges that many of the diseases afflicting Western societies, such as polio, diphtheria, and tuberculosis, pose fewer threats to health than they did in the early nineteenth century, but he differs markedly from the scientific humanist as to the reason for these occurrences. He attributes the recession to improved housing, a decrease in the virulence of micro-organisms, and most important, greater host-resistance due to better nutrition. Thus, he challenges

the scientific foundation for medicine on the basis of its standards by appealing to the lack of empirical correlations between the progress in medicine and the accompanying reductionist strategies:

These changes in health status are generally equated with a decrease in suffering and attributed to more or to better medical care. . . . there is in fact no evidence of any direct relationship between this mutation of sickness and the so-called progress of medicine.³⁷

On this basis, he holds that the "environment is the primary determinant of the state of general health of any population."³⁸ While this position is a decisive departure from the scientist who holds that "primary determinant" for health is physiological or genetic in origin, it does not necessarily deviate from a reductionist strategy in which environmental causes are primary. Nevertheless, countering biological reductionism is an essential step for introducing the value of autonomy because environmentalists tend to believe, along with Skinner, that human nature is quite malleable. This conception of human nature is more coherent with the underlying view of human nature that Illich holds making possible the significance he attaches to autonomy. Yet, for all his effort to expose the ineffectiveness of scientific medicine by subjecting it to its own canons of evidence, Illich seems to be uninterested in carrying out his critique beyond embarrassing the methodology by disclosing its limits, and escaping its biological deterministic outlook. What he does, however, is introduce constraints on medical intervention by introducing the environmental influence on health that makes possible protection and encouragement of self-care by

³⁷Ibid., p. 13.

³⁸Ibid. p. 17.

an autonomous agent. To this end he explicitly incites discontent among the laity, and decries the medical establishment for its exploitation of the human condition.

Man's consciously lived fragility, individuality, and relatedness make the experience of pain, of sickness, and death an integral part of his life. The ability to cope with this trio autonomously is fundamental to his health. As he becomes dependent on the management of his intimacy, he renounces his autonomy and his health must decline. The true miracle of modern medicine is diabolical. It consists in making not only individuals but whole populations survive on inhumanly low levels of personal health. Medical nemesis is the negative feedback of a social organization that set out to improve and equalize the opportunity for each man to cope in autonomy and ended by destroying it.³⁹

Illich is not alone in this assessment, but is joined by others who, in varying degrees, have called for reassessing scientific transformation of medicine.⁴⁰ The romantic revolt penetrates to the depth of one's conscious use of basic medical concepts of 'health' and 'disease.' Scientific medicine also enjoys the additional advantage of being perceived by most health care providers, if not the wider society, as providing an effective means to a specified end; that is, curing (or managing) disease to restore health. It is part of the scientific approach to medicine to conceive of disease as primarily a disorder of the individual organism in isolation from the social environment. Arthur Zucker, who is sympathetic to, if not an advocate of, the reductionist school of thought in medicine, concisely states the perspective of scientific medicine regarding disease: "All disease is physiology gone astray. Where there is truly no physiological problem, there is no

³⁹Ibid., p. 275.

⁴⁰Rick J. Carlson, The End of Medicine (New York: John Wiley and Sons, 1975); Eric J. Cassell, The Healer's Art: A New Approach to the Doctor-Patient Relationship (New York: J.B. Lippincott, 1976).

disease."⁴¹ This understanding is associated with the additional premise that the aim of medicine is the alleviation of disease, with health being largely thought of as the absence of disease. This can be accomplished by efficient management through diagnostics and treatment. Romantics, however, often talk about self-care which means self-assertion in health. They seize upon this idea juxtaposing it to the more determinate scientific conception because it connotes a self engaged in a perpetual process. Health is apprehended within a new framework. It is not merely a scientific state of being, such as the absence of disease, but an activity wherein the self continuously creates itself. The complaint seems to be that scientific humanists treat health as having instrumental rather than intrinsic value. In the romantic scheme, health is seen as the end, rather than some condition of physiological functioning that is the means to achieving one's life plan. Autonomy, then, is not a means to some other human end, but is intrinsically valuable, and hence the fundamental ethical principle for applying knowledge acquired from the biomedical sciences.

Two related but independent strands of thought go into defining the notion of autonomy. The idea of personal freedom is one of them. An individual is free from external pressures to choose a course of action conducive to one's plan of life. In the medical context it means that the patient has the right to decide the course of treatment to pur-

⁴¹"Holism and Reductionism: A View from Genetics," Journal of Medicine and Philosophy 6 (1981), p. 153.

sue on the best available information. Medical ethicists have recognized certain social limits on freedom, so the liberty spoken about here is not unconstrained. But those who are driven by an unquenchable yearning for novel and intense life experiences will not be able to countenance even these minimal restraints. This pragmatic formulation, furthermore, only works in situations where certain self-directed activities are overtly prohibited. But autonomy can be defined in other ways that move more in the direction of protecting personality. This points to a second feature, that explicitly captures the romantic emphasis on inner experience. It involves the privacy of the patient to make decisions without any emotional interference which comes in the form of the social criticism of an individual's personal choices. It is not a long step from self-determination interpreted as 'freedom from intervention' to a notion of privacy designed to protect creative self-agency. Without an inviolable sphere in which to make choices, the patient might be described as having a specific sort of hindrance to choice. Stanley Benn makes this connection between freedom and the newly emerging notion of privacy: "respect for someone as a person, as a chooser, implies respect for him as one engaged on a kind of self-creative enterprise, which could be disrupted, distorted, or frustrated even by so limited an intrusion as watching."⁴² Medical ethicists have always been attentive to noninterference in activity, but now the trend is in the direction of protecting emotional integrity. The President's Commission, for instance, is but one public statement that links the idea of self-

⁴²Stanley I. Benn, "Privacy, Freedom, and Respect for Persons," in Nomos XIII: Privacy (New York: Atherton Press, 1971), p. 26.

creation with self determination to arrive at the contemporary notion of privacy:

Within the broad framework of personal characteristics fixed during the years of development, individuals define their own particular values. In these ways, individuals are capable of creating their own character and of taking responsibility for the kind of person they are. Respect for self-determination thus promotes personal integration within a chosen life-style.⁴³

There is however, a certain incoherence in making this move.

Privacy can have two rationales, and it is essential to keep them separate. One justification for privacy emphasizes its importance as a condition for rational moral agency. According to this interpretation, its scope is determined by a catalogue of privileged moral activity. While this motive for private life differs from the classical notion of protection from coercive governmental intervention, it remains open to rational scrutiny. Accordingly, this idea has certain built-in constraints. For reasons that should be immediately apparent, the genuinely liberated soul will be unable to approve of any scheme that places limits on self-assertion, moral or otherwise. There is, however, an alternative construction that identifies the motive for privacy as a fundamentally personal need for self-involvement. This is surely the move that Benn is making, and the direction in which the commissioners were heading. But this move, too, has a certain romantic strain since it protects self-expression by relaxing, if not abolishing, the condition of rational moral agency, and shifting the focus closer toward aesthetic appreciation. These different notions of privacy require

⁴³President's Commission for the Study of Ethical Problems in Medicine and Biomedical and Behavioral Research Vol. 1 Making Health Care Decisions (Washington, D.C.: United States Government Printing Office, 1982), p. 46.

divergent images of man. Thus, the commissioners are torn between espousing a view of privacy as self-creation, and one that is a condition for rational moral agency. Each notion possesses an alternative metaphysical framework.

Perhaps an illustration will help reinforce this point. The issue of autonomous agency becomes most acute when addressing the question of whether the patient can waive his or her freedom to participate in health care decisions while remaining a "responsible" moral agent. This question is not merely academic since patient acquiescence is a frequent clinical occurrence. It would seem that the image of human nature as self-expressive requires that the patient be the sole actor engaged in the decisionmaking process. To acquiesce voluntarily would on this view mean becoming less human. Nevertheless, the commissioners ultimately qualify their position and consider expressive self-governance as a moral ideal to be upheld by the profession, while recognizing that patients often "fall short of it." Moreover, because health, in this view, is conceptually linked to autonomy, allowing non-participation undermines that notion of health, and raises a serious question about how autonomy is to be conceptually connected to health. Is it truly an intrinsic value, as they maintain,⁴⁴ or does it simply have instrumental worth? The answers to these questions are significant because they reveal how close the commissioners are to embracing romanticism. There is however, an alternative question that should be asked. Is the romantic view of human nature which informs the notion of

⁴⁴Ibid. p. 45-46.

romantic autonomy out of phase with the way people ordinarily express their freedom?

On a related point, although privacy of inner life is commonly presented in a more favorable light as safeguarding a domain for personal development, there is also the darker side of privacy, which includes benign attitudes ranging from withdrawal to quietism. Even worse, inner life may also be nihilistic and narcissistic, violent and antisocial. The motives for disengagement can include anxiety, uncertainty, and loathing. Private life can be both the source of benevolent or creative impulses, and a realm of inner turbulence, misery, and purposelessness. These attitudes are clearly morbid, but intimacy can possess other less suicidally extreme psyches including passivity, and introverted erotic gratification of sensual desires that are far from healthy because they, too, can threaten emotional integrity. It is difficult to see how one can prevent such states of mind given the romantic outlook. What was claimed to be a needed sphere for self-expression has become a preserve for pathological self-absorption. Consequently, if one joins the central features of freedom and privacy comprising autonomy in order to assess their combined effect, it is at least arguable that such a moral outlook far from being conducive to health is in reality self-destructive. Thus, the romantic notion of health itself faces serious objections.

This feature of romanticism has not gone unnoticed by contemporary medical ethicists who have sought to bridle the moral energy of romantic defiance and channel it into more constructive behavior. Thus, Tom Beauchamp and James Childress write about a tempered and

scrupulous rebel, arguing for a logical coherence between authority and autonomy:

But . . . it does not follow that because it is an autonomous action it is morally acceptable or even morally principled. It also does not follow that when one acts on a principle widely shared in society that one acts nonautonomously. Autonomy is perfectly compatible with authority, as long as the authority is autonomously accepted--whether it be a social, political, or religious authority.⁴⁵

This, of course, is correct so far as it goes. But, it is somewhat misleading since it fails to recognize that there is nothing in principle that requires the autonomous individual to subordinate one impulse to another. Indeed, one source of our contemporary moral confusion is that the modern imagination is consumed by a vision of the holy criminal--one who dares to use his liberated genius in a self-display of uninhibited spontaneity transgressing most sacred principles of traditional morality whether religious or secular.

There is a further point that must be borne in mind, the source of romantic morality is a metaphysic that envisions human nature as free-floating and perpetual self-assertion. Thus, to resign oneself to self-imposed rules is to acknowledge that one is prepared to relinquish the striving after infinite possibilities. Accordingly, this attitude sacrifices the expressiveness essential to human dignity. It is, of course, open to Beauchamp and Childress to opt for an alternative Kantian ethic wherein moral principles are legislated in the form of categorical imperatives by an inner self. But to the romantic such universal laws, though subjective, may appear draconian. More impor-

⁴⁵Principles of Biomedical Ethics, (New York: Oxford University Press, 1979), p. 61.

tantly, however, such a moral point of view must, arguably, draw upon an alternative metaphysic of human nature. One, however, cannot presume the truth of such a move without begging what is at issue; thus, this revision, too, must be subjected to further scrutiny.

Conclusion

In the foregoing discussion we have seen two quite different ethical approaches exerting pressure on genetic research, and its applications. The source of dispute would seem to surround the significance that attaches to the value of health as personal autonomy. The scientific humanist approaches medicine intending to define health in terms of measurable and observable standards. This inevitably leads to an understanding of health that treats it as having instrumental value. The romantic view is profoundly at odds with this system. By contrast, health is redefined as autonomous agency; it has intrinsic worth. The frequently used metaphor of a machine is relevant because it serves to illustrate how the aim of scientific thinking is designed not merely to manipulate efficiently, but completely crush the inner subjectivity by turning autonomous persons into automated gadgets.⁴⁶ The situation that develops is one of confrontation. One can see this most acutely in the area of genetic research where the romantic experience thrives on images of what is the natural human condition. Yet it is pertinent to ask whether or not romanticism and scientism can be reconciled so that the two general schemes are not categorically at odds. It would seem that the clue to a resolution is the importance given to autonomy itself. If

⁴⁶Algeny, p. 233.

science is to be restricted to the means of a research project, then there is no reason why these two perspectives cannot be harmonized, at least in principle. What is necessary is to see that science and technology are means to transcending the limits of our biological constitution and thereby achieving true autonomy. However, one must also note that the selection of "ends" has now become a matter of personal preference, and not rational choice. This view, that I shall attend to next, is what I shall call liberal humanism. So then, scientific and romantic humanisms can finally be reconciled in one of two ways, either by treating autonomy as a side-constraint on the type of interventions that are conducive to a desirable state of affairs, and thereby restricting science so that it does not fetter the liberated soul, or by taking autonomy as an end in itself which science has a positive obligation to promote. In either case, science takes on new ethical significance in that it is used to refashion the self according to personally selected plans.

Chapter 4

LIBERAL HUMANISM AND BIOMEDICAL ETHICS

To this point I have been locating the debate over genetic intervention in the broader historical context between scientific rationalism and romanticism. Yet the contemporary dispute is more complicated than this rivalry between those two representative schemes. This is because something of a synthesis of scientific and romantic humanism is occurring at present. It is this phenomenon that I want to discuss in this chapter.

The contemporary confusion in bioethics is more than the erosion of the traditional conscience resulting from advances in scientific knowledge and applications of biotechnology. It is the state of affairs resulting from a profound shift in moral thinking that makes possible these new applications. In certain respects, it seems fair to say that contemporary bioethics is a blend of the scientific consequentialism with its underlying theoretical basis resting in the empiricist foundations of positivist science, and the romantic concern for autonomy as an ultimate principle of ethics. This does not mean that the biomedical sciences have always been completely disinterested toward human subjectivity, but that this concern has played a much reduced role in the overall thinking. For the romantics, of course, any stance short of the intrinsic and exclusive worth of autonomy is tantamount to complete indifference toward the autonomous agency. The controversy, then, seems fairly straightforward. Scientists operating on a means-to-an-end logic

specify the goals of research in terms of objectives that can be quantified and empirically measured. Autonomous agency eludes those criteria. In short, the researcher is frequently maximizing outcomes and producing certain states of affairs other than human autonomy. This is reflected in the basic language of medicine. Disease prevention and health promotion are ideas linked together under the conception of health as the absence of disease rather than self-determination. Romantic humanism, as we have seen, conceives of health as expressed through autonomous human agency. The ethical dispute between scientific and romantic humanists has more to do with divergent values taken to be intrinsic to the normative systems than with the consequentialist logic.

The problem as it emerges in contemporary bioethical discussions regarding genetic engineering is to preserve both the consequentialist logic, as well as the significance attached to the romantic sense of autonomy. There are at least two possible approaches to this problem. One way to capture the romantic emphasis on autonomy is to specify free self-expression as the goal of all scientific projects. It might be a further elaboration of this view that science be exclusively restricted to the means of achieving autonomous human agency. The disadvantage of this approach is that it does not seem to offer effective means of providing social constraints. The second approach would leave in place the basic logic of consequentialism, as well as restricting proper role of science to the means without specifying the goal of a particular research project. But in addition, it would provide independent permission to deviate from the consequentialist dictate when the subject's autonomy was threatened,

thereby protecting self-expressivism. The virtue of this approach is that it keeps intact a minimal morality insofar as its substantive beliefs can be justified as being representative of the principle of utility while leaving open questions concerning individual ends. Either of these schemes would receive support from the Kantian understanding of human beings as essentially rationally autonomous agents. Under such a moral scheme, it is presumed that the romantic value of shifting involvements and spontaneity will be safeguarded while continuing to maintain a reasonable semblance of social control. This case has recently been vigorously defended by H. Tristram Engelhardt,¹ and it is the implications of this approach that will be the focus of this chapter under the title of liberal humanism.

Contemporary Secular Bioethics and the Two Tiers of Morality

Bioethics, as Engelhardt stresses, takes place in the aftermath of the collapse of the traditional conscience, a conscience which was once largely, though not exclusively, informed by a religious framework of human nature that supported moral behavior.² In our contemporary

¹The Foundations of Bioethics (New York: Oxford University Press, 1986).

²It is widely accepted that the rise to prominence of the Hippocratic ethic has been due to its general compatibility with Christianity. As the influence of the religion increased so did the importance of the Hippocratic tradition. Cf. Donald Konold, "History of Medical Ethics," in Encyclopedia of Bioethics, 4 vol. ed. Warren T. Reich (New York: The Free Press, 1978), 1:64; also, note the comparative study from the Medieval period by Loren C. MacKinney, "Medical Ethics and Etiquette in the Early Middle Ages: The Persistence of Hippocratic Ideals," who concludes that, "whereas the treatises on medical ethics often manifest a highly Christian ideology, those on etiquette are more secular," in C. R. Burns Legacies in Ethics and Medicine (New York: Science History Publications, 1977), p. 202.

medical setting, however, this prop has been removed by increased biomedical knowledge and its technological applications. In the rubble that remains, not only do serious differences of opinion exist over the scope, content, and character of morality, but also profound disagreements about the nature of human beings.³ Bearing in mind this cultural development, Engelhardt sets forth to reconstruct a secular bioethics by acknowledging the failure of previous secular attempts to replace the moral authority represented by the received consensus. He has in mind the Enlightenment project which assumes that a single general pattern of the good life could be discerned by scientific reason alone, and that human nature was sufficiently malleable to conform to that pattern. While he candidly confesses that his own effort is an attempt to refurbish all that can be reasonably hoped for in the enlightenment project, and by this he displays a certain nostalgia for rationalism, he denies what scientific humanists characteristically affirm: all moral claims must have a universal character reflecting basic human needs that are binding on all people once those human needs are properly and scientifically understood. According to Engelhardt, even Immanuel Kant, the formidable champion of the enlightenment project who believed that human nature was so constituted that practical reason would ultimately produce a harmonious "kingdom of ends" (and who has left an indelible imprint on Engelhardt's own mind) failed to recognize the full implications of his philosophy.

³Edmund D. Pellegrino and David C. Thomasma maintain that "the apparent inability to resolve our medical-moral dilemma stems from a lack of a meaningful view of human nature." A Philosophical Basis of Medical Practice; Toward a Philosophy and Ethic of the Healing Professions (New York: Oxford University Press, 1981) p. 183.

I will not be quite as confident as Kant that there is only one such finite perspective for humans. In fact, I will proceed with the presumptions that (1) there may be many special human realities . . . , and (2) that the portrayal of the conditions of reality in any detail is itself conditioned by the perspective of a particular historical period. I will agree in part with Kant that we can at least gesture in the direction of truth, even if the truth we actually know is only a truth of finite knowers and valuers.⁴

Consequently, with the diminished role of rational capacities to discern a pattern, what remains of the Enlightenment project after sufficient renovation is the spectacle of diverse forms of life. Morality, then, is largely what is demanded of Spartans by other Spartans rather than what is required of human beings in virtue of being human. He further thinks that on reflection our cherished moral sentiments will be undermined or at least shown to be "a part of a community's special moral commitments and not amenable to general justification."⁵ Despite the apparent lack of rational support for the ideals expressed within any moral community, it is only by being a member of a specific moral community that one can discriminate between right and wrong, and, he further notes, moral rectitude can vary greatly across communities.⁶ There is, however, a certain feature in morality that is general enough to confer rational authority, and some measure of social control. This element is mutual respect for the freedom of others.

Since a particular community will have only that authority that the individuals who constitute it grant to it, insofar as one will wish to speak of secular moral authority, one will have to respect the freedom of each individual as a condition for the possibility of that general secular moral community's authority. Respect of the

⁴Engelhardt, The Foundations of Bioethics, p. 22.

⁵Ibid., p. 14.

⁶Ibid., p. 49.

freedom of individuals is thus a constraint (but it is not necessarily a value pursued, i.e., individuals can consistently decide freely not to value freedom highly) on public policy as a condition for the possibility of moral authority and leads to the practice of acquiring free and informed consent in health care.⁷

This is Engelhardt's "minimum notion of ethics." As it turns out, however, this minimal notion amounts to a formal condition for an "enterprise in controversy resolution." He offers two reasons to further explain this position. In the first place, "it commits one to no particular concrete moral view of the good life." In the second place, he continues:

It is a minimal condition in simply underscoring what it is to resolve issues peaceably and with moral authority. Such a defining condition offers ethics as an enterprise that can be accepted by all participants. It establishes an equally acknowledgeable authority for its conclusions: the conclusions to the process of ethical reasoning are those that peaceable negotiators have all agreed to accept.⁸

Accordingly, secular ethics, and indeed secular bioethics, as we will see, does not tell how one should live, but is, as he says, a "procedural ethic." Beyond this minimal condition, the principles that serve as the content of this morality will be constructed by free agents through a process analogous to establishing contracts. These principles themselves, however, will be general, and there will be no universality in applying them in particular situations and communities. Nevertheless, they will provide the minimal content that, according to Engelhardt, any medical ethic in a pluralist society will need to observe, if it is to have any rational merit. He then goes on to develop his version of the bioethical platitudes, all of which will need to be properly

⁷Ibid., p. 45.

⁸Ibid., p. 41.

related to the condition of mutual respect: autonomy (interpreted negatively as the freedom to act, or freedom from intervention without consent), beneficence (or the achievement of goods and the avoidance of harms), ownership, and political authority.

Yet, in addition to the importance that Engelhardt gives to the minimal character of secular ethics, he gives full consideration to the realization that any developed morality must offer a great deal more than merely tolerance and contracts, if it is to be recognized as a plausible case. Left to itself, what Engelhardt has said thus far would merely impoverish the human scene, as he fully recognizes. Here he differentiates himself from both the pure rationalist and the romantic by sharply distinguishing two spheres of morality.

The moral life is lived within two tiers or dimensions: (1) that of a content poor secular ethics, which has the ability to span numerous divergent moral communities, and (2) the particular moral communities within which one can achieve a contentful understanding of the good life. The first is defensible in terms of general moral arguments regarding the nature of ethics. This tier offers some absolute and universal moral conclusions, even if they are content poor. The second tier offers competing visions of the good life, including concrete accounts of virtues and vices. Here arguments are not conclusive and often, if not usually, require accepting certain basic premises that cannot be secured by argument.⁹

The first tier is the one I have so far been discussing. It has to do with managing conflicts that arise between rival views of the good life. To do this he envisions a neutral framework that can be rationally justified on the basis of general argument accessible to all. Throughout his discussion of secular bioethics, Engelhardt attempts to discuss the major controversies (e.g. beginnings, and endings of life, rights to health care, refusal of life-sustaining treatments, and the like) by

⁹Ibid., p. 54.

attempting scrupulously to remain within the limits of this tier.¹⁰ The central problem is to provide a rationale that gives "intersubjective moral authority to intrasubjective conviction."¹¹ This, of course, is the issue of establishing the objectivity of the moral point of view in which all participants come to respect others' fundamental values. The problem of objectivity in morals is most acute because the limits of secular moral authority are co-extensive with the limitations of reason. Given that Engelhardt is unable to find any method of moral reasoning comparable to that which is employed in the empirical sciences, his secular bioethics takes on the identity of not merely metaphysical or religious skepticism, but moral skepticism, as well. This doctrine holds that no accredited means exists whereby one way of life can be found to be worthy of regard by all persons regardless of whether or not they share similar basic commitments. To be sure, it is expected that individuals who share a basic commitment to a certain ideal will find some reason to acknowledge the validity of alternative interpretations. Agreement here, however, will be ascribed to partisanship rather than to rational suasion among competing frames of reference. And, it is for this reason that the first tier of morality is a prerequisite to any medical ethic because without it bioethical controversies would be irreconcilable. This tier, then, is the preserve of moral communities

¹⁰"The approach offered here requires viewing moral controversies in biomedicine as public policy disputes that are to be resolved peaceably by agreeing to procedures for creating moral rules based on the principle that force cannot be used against the innocent without their consent. Authority in health care is therefore contractual"; *ibid.*, p. 48-49.

¹¹*Ibid.*, p. 28.

and their constituent visions of the good life.

I make reference to the comparable objectivity present in the empirical sciences because Engelhardt himself makes a comparison between rational deliberation in these disciplines and that which is appealed to in embracing a particular tradition, say Christianity or Marxism.¹² The implication of this view as he boldly acknowledges is an impoverished morality, which must be further supplemented by the values of a particular community. Thus, he sharply contrasts the rational dimension of morality with the realm of moral communities that are constituted by visions of the good life which differ radically with divergent communities. The justification for its inclusion within his overall theory regards the importance it has for providing specific meaning to moral existence. It is through one's moral community that one develops a vision of the good life that makes possible decisions about how to live. The reason for this is, as Engelhardt tells us, because moral communities not only include a range of moral values but also provide instructions based on non-moral values which "offer an articulated view of the meaning of things."¹³

It is also characteristic of Engelhardt's moral communities that the ways of life they offer are selected analogously to aesthetic choices. One will be found to be more personally alluring than others. He clearly and confidently rejects any presumption that favors one uniquely authoritative perspective, which he euphemistically calls the "monotheistic presumption." Instead he favors the "polytheistic

¹²Ibid., p. 27.

¹³Ibid., p. 50.

presumption," which according to Engelhardt, is the position that "there are a number of equally defensible but quite different, moral perspectives."¹⁴ One cannot justifiably label Engelhardt a romantic, but his affinity toward ethical diversity can be interpreted as a concession to romanticism. It must also be immediately qualified by his insistence on recognizing the interests of others through peaceable negotiation, and this will no doubt squelch some of the romantic enthusiasm. Engelhardt reaches his minimal morality because of the limitation of moral reasoning imposed by his empirical approach, and not because of an explicit concern for self-expression.

Insofar as a unique, authoritative viewpoint appears unobtainable, answers will turn more on matters of particular inclination and of common decision, rather than on points open to general resolution through the discovery of correct answers. . . . the polytheistic presumption, at least in matters of values, appears better founded--especially if the gods and goddesses are seen within a cosmos of general rational restraints.¹⁵

Nevertheless, it is his proclivity toward "polytheism" that justifies my use of the title liberal humanism to describe his particular viewpoint. This form of liberalism is most familiar to us as the skeptical philosophy underlying what is fashionably called the "permissive society." To the extent that this social philosophy is at work in reforming the practice of medicine one can also anticipate a similar influence on public policy governing the institution of medicine. Thus, the medical community may not be simply responding to the social and cultural pressures, but, as we will have reason to examine later, it may also be criticized as an agent to bring about reform, not merely in its own institution in institutions, but to the wider fabric of society.

¹⁴Ibid., p. 19-20.

¹⁵Ibid., p. 20.

Contemporary Secular Bioethics Revisited

As one moral philosopher has eloquently put it, "liberal humanism is now the very air we breathe."¹⁶ If one is to be genuinely honest, it is not hard to see why some form of this view has become so attractive to bioethicists. As a practical matter, it resonates with tolerance, striking at the nerve of dogmatism; for this reason alone it is not merely appealing, but difficult to find fault with it. Nevertheless, it rests on a set of assumptions that seem always immune to critical examination by those who champion it. Considering the scheme as a whole, its proponents claim to provide (i) a tolerant professional code hospitable toward diverse and competitive moralities, (ii) a neutral system of morality, or at least one non-controversial in the sense that it purports to account fairly for our deepest shared intuitions, and (iii) a rationally justified means of social control. For the balance of this chapter, I propose to examine these interrelated claims.

A Critique of Engelhardt's treatment of visions of the good life. The manner in which Engelhardt characterizes "visions of the good life" as they develop within particular moral communities should not go unnoticed. A careful reading of his discussion will reveal that he fails to clearly distinguish the different categories that determine the particular moral viewpoints which give communities their distinctive character. He is fully aware that it is only within particular moral worlds that one can seek guidance to moral actions. "Within a particular community," he explains, "one can also learn whether it is better to

¹⁶Basil Mitchell, Morality: Religious and Secular, (Oxford: Clarendon Press, 1980), p. 52.

suffer the pains of a prolonged fatal illness or to avoid this through suicide, whether it is better to raise with love a defective child or to prevent its birth through prenatal diagnosis and abortion, whether it is better to accept sterility or to hire a surrogate mother."¹⁷ He is correct, of course, in recognizing that such decisions must be made against a backdrop of a larger system of beliefs about life, for without such a set of beliefs, specific moral choices, requiring the application of principles and conceptual distinctions, would be unintelligible. Accordingly, he says that particular moral communities are made up of elements other than "simply moral values," but are inextricably bound-up with other values that "offer an articulated view of the meaning of things."¹⁸ Deliberations on such issues as life and death, rearing in love a child with a genetic defect, or creating life in circumstances where both parents do not contribute gametes, requires fully developed philosophies of life. These schemes in turn provide an understanding of man's nature, as well as interpretations of the human condition and destiny; they inform our choices. This makes them logically different from our concrete moral senses, which direct our actions. The weakness of Engelhardt's discussion, then, rests in his failure to make clear that moral communities include particular "visions of the good life," which exhibit two very different logical functions. Some are prescriptive, telling us how to live while others are descriptive, functioning as an over-all explanatory scheme that shape our choices. This distinction is, I believe, significant since Engelhardt treats them all as

¹⁷Ibid., p. 50.

¹⁸Ibid.

prescriptive, and then asserts that they are incapable of rational discriminations.

Moral communities, moreover, are not only made up of logically different elements, but they also differ in kind from one another. There are, for instance, those concrete moral senses in conjunction with their non-moral value frameworks that give answers the question "How shall I live?" These serve as vocational ideals in the sense that they are not thought to be incumbent on others. They tell us, to borrow Engelhardt's example, whether it is better for one to become a cosmetic surgeon or an internist. The basis of this selection is best understood as "a choice of that view of the good life, which, according to his sentiments, is the richest and most encompassing and appropriate."¹⁹ The process here is to assess the commitments and consequences of a particular choice on one's present and future conduct and character in the light of that way of life which one wishes to live, and then judge the over-all coherence. There is in all of this somewhat of an aesthetic appeal, particularly if one is already predisposed to view his or her own life as a matter of self-creation. Under such a condition, it is easy to imagine Engelhardt's cosmopolitan shopping center "where one has the opportunity to 'shop' for intellectual and moral insights from various religious and cultural 'traditions'."²⁰ In such circumstances, one is, no doubt, "free to be influenced by their allure." My criticism of Engelhardt, however, is not that vocational ideals lack importance, or that they are largely chosen in the manner that he suggests; rather, my

¹⁹Ibid., p. 51.

²⁰Ibid., p. 52.

point is that he runs together all "concrete moral senses" and explanatory elements that give those choices meaning, and considers them all irredeemably subjective. This error is evident from his inability to discern any differences among choosing to be a cosmetic surgeon, an internist, or an abortionist. For him, the choice in each case is purely aesthetic.

Further, if there are no generally sustainable, secular arguments to establish a particular view of the good life, and as long as the ways of life under consideration respect the freedom of the innocent, then choices among them will appear, from outside any particular moral community, to be aesthetic choices. There will, in short, be a number of moral viewpoints unexcludable on the basis of secular moral arguments. For example, is it better to be a devout Southern Baptist, a Texan deist, or a homosexual San Francisco atheist? Each is likely to carry special risks or advantages with respect to future morbidity, mortality, and quality of life. Is it better to practice medicine as a cosmetic surgeon, an abortionist, or an internist? Is it morally better to practice with profit as a central motive, or instead as a part of a non-profit church clinic? In many circumstances, secular arguments will give little or no guidance. From the outside, for the unconverted, the choice will not be a moral choice in the strict sense of a choice one could hope to universalize. Instead, one can best understand someone's choice as a choice of that view of the good life, which, according to his sentiments, is the richest and most encompassing and appropriate. However, such choices cannot, as was shown earlier, be decisively demonstrated to be morally authoritative on the basis of sound arguments.²¹

This grouping of all concrete moral viewpoints and descriptive statements regarding visions of the good life is questionable. Unlike choosing to be a cosmetic surgeon or an internist, which do not presume any underlying beliefs about who we are as individuals, choosing to become an abortionist does. The reflective physician, however, could scarcely make such a choice unless he were first convinced in his own mind that

²¹Ibid., p. 51.

(i) the fetus is not a person, or that (ii) if the fetus is a person, it is not one in the same sense that applies to fully recognizable persons. One or both of these underlying beliefs, among others, of course, (e.g., that sexual conduct is entirely a matter of personal preference) would accompany one's decision to become an abortionist. If, however, the physician believed that the developing fetus were not significantly distinguishable from, say, a neonate, I suggest that the physician's conscience would preclude him from choosing to become an abortionist.²² That there are these profound sorts of underlying beliefs that inform one's vision of the good life renders implausible Engelhardt's claim that all concrete moral viewpoints are merely adopted as a matter of personal preference. It is even less credible, to carry the analogy further, to think of them as being transitory preferences, as is sometimes argued by those with romantic inclinations. To the extent that visions of the good life are descriptive, they are in principle open to rational assessments.

The same point can be advanced with regard to his treatment of the "devout Southern Baptist theist," a "Texan deist," or a "homosexual San Francisco atheist." These are rival world views that clearly purport to do more than guide actions; they present explanations that claim

²²One might reach a similar conclusion even if the fetus were viewed as a potential person, but were further influenced by the belief that the fetus is merely undergoing a natural process of development similar to the way in which a neonate or any adult naturally develops in the due course of events, and will eventually possess all the relevant characteristics of any individual at a further stage of life. On this view, the different stages of life are not isolated and arbitrarily divided into temporal slices; the past, present and future development are given due consideration. Life is thought of more as a motion picture, rather than a snapshot.

to be either true or false. They address, that is, the question "How should a man live?" Their conclusions, moreover, are intended to be universal statements of a kind that cannot be chosen as a matter of personal preference. There are, then, those "visions of the good life" that, because they give an over-all interpretation of the human condition, assert a philosophy of life associated with a specific catalogue of human excellences which define the purpose and importance of human life. As such, these are, at least in principle, capable of being rationally judged.

We must, at this point, take notice that Engelhardt's two-tier secular bioethics itself presents us with a particular vision of the good life that corresponds with his own view of the human condition. I think it is also fair to say that Engelhardt intends that the medical profession treat this moral ideal as more than a vocational one. It is an ideal of mutual respect for the free choices of others no matter how contrary to our own, and strict adherence to peaceable negotiation. This ethical theory is likewise informed by his view of the human condition. Beyond certain limits of our biological constitution, which he seems inclined to interpret along sociobiological lines,²³ there is no unique and authoritative interpretation of human experience, but only "many special human realities." Accordingly, one is free to do whatever one wants insofar as it does not violate the basic social principles laid by contractual negotiation. To supplement what is otherwise frankly acknowledged as an impoverished state of affairs, one must look to his or her own moral community to add specificity and meaning to

²³Ibid., p. 5-6.

one's own moral deliberations. But, here, according to him, there are no objective criteria. Unlike the statements in scientific theories, the beliefs underlying moral communities cannot be rationally judged as worthy of one's allegiance. And so, the whole view, then, sharply divides the world of moral life into a public ethic of autonomy addressed to rational beings and a private ethical code for the members of a particular moral community. For all Engelhardt's claims to cautiously avoid any form of dogmatism, it is not hard to see that his entire scheme is dictated by an austere empiricist theory, broadly construed, about the limits of what can be claimed to be true or false; and as such, it constitutes a metaphysic, meager though it may be.

It is tempting at this point to concur with Engelhardt's critics who convincingly claim, as does John Kleinig that, "it is highly partisan"²⁴, and simply state that Engelhardt himself offers an interpretation of a specific moral sense (that is recognizably libertarian), which according to his own theory can be accepted or rejected however we choose. But, Engelhardt would, no doubt, protest this move by pointing out that he has treated his minimal condition of ethics as a "side-constraint" rather than a positive goal of moral pursuit, and his procedural ethic is all that can be reasonably justified. The moral scheme that follows from his view divides moral life into realms--that which is rational and that which is irredeemably irrational--so that his

²⁴"A Libertarian Response to Moral Diversity," Hastings Center Report, 17 no. 1 (February, 1987), p. 35. Also, consult John D. Arras, "Review of H. Tristram Engelhardt, Jr., The Foundations of Bioethics," in American Philosophical Association Newsletter on Philosophy and Medicine (November 1987), p. 3-6.

bioethics is not contaminated with particular vision of the good life. Yet, it remains to be seen whether this move can be sustained.

As we have seen, the logic of these bioethical theories offers an abstract scheme that requires significant supplementation by further personal beliefs developed individually or within moral communities. But, it seems that even the Engelhardt's theory does not always adhere to this standard. Indeed it seems to assume more than the basic morality will allow. Consider for the moment the growth of medical technology that now makes possible organ transplantation. This development alone has significantly forced the medical community to reflect on the extent to which one's body is considered private property. Although the institution of property is exemplified by widely divergent social systems, it can be scarcely asserted that the nature and scope of ownership is of no social concern. The matter has become so serious within medicine that Engelhardt himself incorporates a principle into his own basic bioethical theory. This principle, curiously enough, takes the form of absolute property rights that is characteristic of the libertarian scheme. It is, of course, widely known that, even within our own society, advocates of libertarian, egalitarian and collectivist models passionately dispute the exact expression of this institution. Thus, it seems that moral ideals do have an influence on the medical morality.

There are, no doubt, other areas as well where the professional code requires supplementation from what might otherwise be considered the realm of visions of the good life. One social ideal that must play a significant role in medicine is that of the family, despite the recent

erosion of its accompanying morality. It must be admitted initially stated that there are various possible arrangements. But, it must also be recognized that nurturing children, and other social functions require that each society adopts some determinant form. The one that has largely shaped western society has been the Judaeo-Christian arrangement where parents have the responsibility to educate, provide for, and encourage their young and children have reciprocal duties in caring for their elderly parents. In general, the medical community in cases of incompetent patients has relied on familial authority for proxy consent to medical treatment. Thus, it seems that there is a significant intermediate area which goes beyond the minimal medical morality that is overlooked as relevant to biomedical ethics.

This occurrence, however, is problematic for liberal bioethicists, and it is not quite clear how they will handle the situation. They will, no doubt, agree that some form of the family is central to the functioning of any health care system. But the issue is in what form, and to what extent need it be considered? On the one hand, they might concede that this matter has been resolved with respect to our society by reference to the existing arrangement. But this move will not satisfy those who wish to avoid identifying the professional code with a definitive vision of the good life, since that is associated with something along the lines of Engelhardt's second tier. In this realm, moral choices are no more rational than aesthetic choices. On the other hand, they might argue that it is possible to rationally choose from among concrete moral senses of the family. But this move gives concrete moral judgments a rational status and abandons the sup-

position that alternative visions of the good life are irredeemably subjective. The uncertainty in handling this problem suggests that there is a significant intermediate area which goes beyond the minimal medical morality, but one that is not irredeemably irrational. It is this intermediate "moral zone" that is often taken for granted, or even worse, thought irrelevant to the professional ethic. Yet it is in this region where most of the choices involving the type and extent of genetic interventions most conflict with the traditional conscience. And, it seems to me that it is too simplistic to write off these concerns as irrational.

Engelhardt might object by alleging that his contractual bioethical theory can adequately accommodate these considerations through a rationally sanctioned process of negotiation and compromise. According to his theory, it is, of course, true that the particular instance of the family manifest in our society is an arbitrary choice, but it could have rational support if it were the outcome of a procedure that is derived from mutual respect for free choice. In addition to this requirement, the moral checks of sympathy and tolerance need to be observed. The problem is that tolerance and sympathy do not generate a set of moral demands--they are essentially permissive. Given radically different interpretation of what the family should be like, not to mention the divergent moral demands that support and define their distinctive quality, Engelhardt gives no reason why disputants would wish to enter a contractual relationship, or how they would handle these moral disagreements once they sat down to the table. They certainly could not, on his theory, consider some beliefs irrelevant to the negotiations

without begging the question in favor of some concrete moral sense. However, once an institution is selected with the moral roles and obligations defined, it is always possible to be tolerant in their applications. This unfortunately is not the situation with which Engelhardt is dealing. Thus, it is not clear how Engelhardt will handle selecting the particular form of the institution. If, on the one hand, he accepts the present structure he will have permitted a particular vision of the good life to infect his bioethics--which he does not want to do. On the other hand, if he gives it a role he will have to acknowledge, insofar as he is seeking a rational system, that at least some visions of the good life are capable of rational assessment. Consequently, these should figure into the standards of medical ethics. In sum, the sharp distinction between the two tiers of morality is implausible.

A Critique of Engelhardt's minimal ethics. There are further problems that count against the two-dimensional morality. With regard to the minimal professional morality, it seems that it, too, requires more interpretation than its proponents are prepared to admit. The principle of nonharm, for instance, is pertinent to this discussion. Should it be interpreted as referring to something tangible or nontangible? Some biomedical ethicists can be read as placing significant emphasis on interventions disrupting inner personal life, whereas others place greater importance on manipulations affecting bodily existence. Edmund Pellegrino and David Thomasma, for instance, take the former path while Engelhardt with his approval of "peaceable manipulations" follows the latter. The principle of nonmaleficence applied to either of these

situations needs to be given a different interpretation in order to cover the intangible and tangible contexts. Although bioethicists are free to apply the notion in either of these ways, it must be noted that the justification of the concept does not rest solely with the meaning of the principle itself--further supplementation is necessary.²⁵

Beauchamp and Childress raise a similar problem in relation to justifying informed consent. There are several rationales for this principle, but they find those based on the principles of utility or nonharm particularly troublesome. They, like the President's Commission on Bioethics,²⁶ claim that the patient knows best rather than the physician, even with all his expertise, what contributes to their health. Their position is that the patient must always be the decision-maker, unless they voluntarily relinquish that role. Thus, "neither utility nor nonmaleficence," they argue "leads to this strong conclusion, for both would justify not seeking consent in some circumstances--utility when it would not maximize the social welfare and nonmaleficence when no apparent harm would result."²⁷ The utilitarian, by contrast, would argue that no harm is done since it is the physician who in most

²⁵Pellegrino and Thomasma's position stems from the significance they attach to the phenomenon of illness that leaves the patient vulnerable to external influences; see their chapter on "A Philosophical Reconstruction of Medical Morality" in A Philosophical Basis of Medical Practice (New York: Oxford University Press, 1981), esp. p. 209.

²⁶President's Commission for the Study of Ethical Problems in Medicine and Biomedical and Behavioral Research, Making Health Care Decisions, A Report on the Ethical and Legal Implications of Informed Consent in the Patient-Practitioner Relationship, vol. 1 (Washington, D.C.: U.S. Government Printing Office, 1982), p. 45.

²⁷Tom L. Beauchamp and James F. Childress, Principles of Biomedical Ethics, (New York: Oxford University Press, 1979), p. 65.

situations has the advantage of making tough calls. He would support his case by alleging that in most instances medical judgments are obvious such that the patient, too, would make the same choice if appraised of the relevant facts of his conditions. Faced with this response, I think Beauchamp and Childress would argue that the patient is harmed in such instances. Thus, it is easy to see the equivocation taking place between the two views over the meaning and application of the basic notion of harm. And, the same point could be made regarding other platitudinous principles.

Moreover, other problems exist. The priority given to the principles of the minimal professional morality will differ.²⁸ The problem has more serious implications for the structure of one's moral point of view. The sources that influence different rankings of basic principles come not only from his professional peers, but his own views as a result of his own training and experience, as well as those of the patient. It is, for example, entirely possible that one physician may attach more importance to self-determination than to pleasure and avoidance of pain and suffering, while another physician espouses the opposite ordering. Furthermore, there is the whole area of applying fundamental principles, even when they are interpreted univocally. The problem has been a matter of serious debate with regard to informed consent. This generally assumes that the patient is competent, conscious, and that the physician is wise enough to discern the correct measure and kind of information. But, as recent literature attests, there is

²⁸Pellegrino and Thomasma observe that the ranking of values among basic moral principles is a principal source of much dispute in A Philosophical Basis of Medical Practice, p. 187.

reasonable disagreement regarding the standards in all three of these areas. All in all, while the basic morality is important it seems implausible to suggest that a sharp line can be drawn between minimal professional morality and further visions of the good life. Thus, the liberal bioethicist intent on reconstructing a professional medical ethics faces a dilemma. He can either secure a non-controversial minimal code to safeguard grievous violations of patient choice at the expense of serious theoretical inadequacies, or he can move toward a richer scheme of determinant human needs which are liable to influence visions of the good life, and hence forfeit the claim of neutrality.

A critique of the objection from moral pluralism. In response to this criticism, medical ethicists commonly draw upon the resources of moral pluralism, by which they mean divergent sub-moralities in relation to the same area of conduct. Most of the discussions in medical ethics treat moral pluralism as (i) an external force exerted on the medical morality forcing essential changes in its orientation, and at the same time (ii) a means of enriching the basic morality by giving it a determinant meaning. Moreover, it is not uncommon to find both of these rationales used by the same ethicist in the course of justifying reforming the moral code of the medical profession. This is certainly true of Engelhardt. But there is some risk of ambiguity. Condition (i) assumes that the medical community is merely reacting to external social pressure. Yet this objection is not wholly descriptive of how the medical profession is handling cultural trends. It also implicitly contains a positive evaluation of the direction in which it should head. Those, like Engelhardt, who are more explicit about their favorable attitude

toward moral pluralism point to the second condition. They see individual ideals as they have been cultivated by variant moral communities as essential to supplementing the basic medical morality. Engelhardt's candor on this point does not detract from his using the descriptive sense of pluralism as a premise of reform. As a matter of fact he shifts back and forth. In his preface, for instance, he explicitly denies that his argument is a "manifesto on behalf of secular pluralism," rather he continues, it is an "acknowledgement of its inevitability."²⁹ He sees this inevitability as a result of the demise of the consensus embodied in the traditional authority and the limits of reason. In the course of his argument, however, he shifts to identifying a positive role for pluralism in his overall two-tier morality. He intends that this scheme ought to be adopted for it is the best that can be sought on rational grounds. This latter move, has significance for medicine as an institution that goes unmentioned. To the extent that medical ethicists see fit to supplement their scheme by creating a positive role for moral pluralism, and insofar as that scheme requires that enrichment, they make medicine an agent of reform.

To do this is to attach a social philosophy to medicine. That philosophy, as mentioned earlier, is what is commonly referred to as the permissive society. In general, this view adheres to a morality that is strongly individualistic. It severs the individual from any human ties of authority, either because proponents of this view are skeptical of

²⁹The Foundations of Bioethics, p. viii.

the rationale for them³⁰ or, from a different direction, because they see these bonds as suffocating self-expression. These challenges reflect the mind of the liberal medical ethicist who has constructed his scheme from a blend of scientific rationalism and romanticism. Accordingly, the variations that occur within this scheme can be seen as either invigorating scientific rationalism by infusing romantic notions of the affective person and aestheticism, or as chastening romanticism through curbing the excessive and dangerous impulses of sentimentalism with standards of rationality. In any case, these influences have lead to the "new" liberalism, whose logical tenets have been carefully and succinctly worked out by Keekok Lee:

It may be set out as follows: (1) a free and open society is one that tolerates diversity of opinions and beliefs; (2) the expression of conflicting opinions and beliefs must be tolerated precisely because it is logically not possible to establish that some beliefs may be true, correct or justified and others may not; (3) given that they are irredeemably subjective (or relativistic), one opinion or belief has as much right as any other to be deemed correct or justified; (4) therefore, to suppress one but not another is unjustified; (5) the final conclusion must be that a free and open society tolerates pluralism because pluralism is alone compatible with a subjective/relativist meta-ethics; (6) the corollary of (5) is that pluralism and the possibility of objectivity are not compatible with each other; (7) if objectivity were to be established, pluralism would be rendered superfluous and meaningless and its abolition would go hand in hand with the demise of the free and open society; (8) hence, it becomes almost dogmatic article of faith that the possibility of objectivity does not and cannot obtain.³¹

³⁰It is possible to argue that the epistemological theory of Engelhardt's skeptical empiricism is also questionable despite his claims to the contrary. I have not chosen to pursue that line of inquiry, other than comments that I made in Chapter One regarding the revisions of positivism (i.e. falsificationalism). But, my doubts about Engelhardt's theory of justification are implicit in my claim here.

³¹Keekok Lee, A New Basis for Moral Philosophy (Boston: Routledge & Kegan Paul) p. 193.

The thesis that Lee sets forth, and one that comes very close to my own, calls into question the ideological doctrine that moral objectivity is logically incompatible with liberalism, and he challenges the current conventional wisdom by claiming that liberalism requires an ethical theory that is objective and rational. The line of argument supporting the new liberalism that Lee outlines here is very similar to that taken up by Engelhardt. Yet, there can be no sharper contrast between the final positions of these philosophers. Each man, moreover, offers a rigorous defense of his conclusions, so it seems reasonable to conclude, if only tentatively, that Engelhardt's conclusions need not be adopted at face value. There is after all something odd about the argument from skepticism which moves from the subjectivist premise that there is no reason to regard the views of others who do not share one's own values (except, of course, for the pragmatic reason of warding off retaliation); and that there is no basis to discriminate among specific ideals; to the ethical objectivist conclusion that we must respect all human demands, irrespective of orientation. It is not enough to justify the move on egalitarian grounds, for that engages in an equivocation of meaning of the terms of the propositions. If all ideals are equally "irredeemably subjective," they are equal in the sense that none provides an objective reason for regarding the moral views of strangers. Skepticism cannot circumvent that problem. If the argument begins from subjective skepticism it must end there.³²

³²For an elaboration on this argument against ethical skepticism see James R. Flynn, Humanism and Ideology: An Aristotelian View, (Boston: Routledge and Kegan Paul, 1973), pp. 68-78.

Having called attention to the social dimension in contemporary medical ethical theories and its ramification for the institution of medicine, one must resist the unwarranted generalization that all tolerant attitudes entail a commitment to the social philosophy of the permissive society. With regard to permissiveness, one can discriminate at least two senses to the term. Many well-intentioned physicians, and medical researchers, maintain that when they take-up an attitude of permissiveness toward a given behavior, that is, when they refuse to consider the broader implications for society, it is not because they assume the mind of a social philosopher, but because they do not think it appropriate for society to delegate the entire burden of certain rulings about life and death, sexual morals, family arrangements, and the like, to the institution of medicine. I shall refer to this sense as conditional permissiveness. By it I mean that the medical profession espouses a deliberative policy of leaving these matters to other social institutions with the confidence that the net effect of distributing responsibilities broadly will mutually support the best interests of society. There is, in addition, a second sense of permissiveness which must be sorted out and distinguished from the other. This I call the unconditional sense. On this view, permissiveness on the part of medicine concerning sub-moralities in relation to the same area of conduct means that judgments about sexual behavior, or life and death are entirely a matter of personal taste. In areas of child rearing and family arrangements it is exclusively a matter of individual choice, and these arrangements do not merely fall outside the aims of medicine, but they do not fall within the purposes of any social government, public or

private. This is the permissive society that I have in mind, and it is clearly part of Engelhardt's bioethics that it must embrace "the vision of a secular pluralist morality." There is, then, a clear and important difference to be made between holding that certain decisions about one's health are best regulated by the institutional arrangements of the society at large rather than being exclusively or primarily the responsibility of medicine, and espousing that such matters are of no concern not only of medicine, but likewise other social institutions. The distinction to be made is between conditional and unconditional permissiveness.

But, in recognizing this difference, it must also be acknowledged that medical ethicists, as philosophers, must be clear about which they intend and the ramifications of their respective positions. On the one hand, the unconditional sense turns medicine into an agent for undermining, or worse still taking up an attitude of indifference toward, traditional ties. One way to carry out this role in keeping with conventional liberal political philosophy, and one implicit in the discussion of Engelhardt, is to use pluralism as a restraint against private governments. As a consequence, it surrenders any advantage of being a neutral scheme. On the other hand, the conditional sense means only that medicine is not the sole institution at work, and that other institutions such as the family, legal, educational or political system must work together and share the burden, and that if other institutions proved incompetent, or if medicine was unduly frustrating the performance of other agencies, then the medical policy would be reexamined.

I began the discussion of pluralism in medical ethics by drawing attention to a descriptive/responsive sense of pluralism and an

evaluative/activist one. The evaluative sense was introduced because sub-moralities in relation to the same area of behavior are necessary to supplement the basic morality. Beyond this role of incorporating pluralism into the moral scheme we are told very little about the rationale for such a move. There is, of course, a pragmatic reason for pluralism as it relates to balancing moral conflicts within the society. That motive partly underlies Engelhardt's notion of a "peaceable" community. It also follows from his position of moral skepticism. Since there is no basis for rational choice the potential for moral conflict is serious. The most important justification for the evaluative sense of pluralism is condition (ii), to provide further meaning and intelligibility to particular moral lives. There is, of course, a case to be made along these lines. But, such a defense is controversial from the romantic viewpoint, and not without serious drawbacks, to which Rosenblum gives full attention:

From the point of view of conventional liberalism there are also good reasons to value the spread of legalism throughout the secondary associations of society. Formally organized groups provide sources of power outside of government to limit it. They provide supportive contexts for developing habits of making and following rules for individuals who would otherwise be strangers to one another, unable to form expectations and unable to engage in regular, productive relations at all. But, from the point of view of romantics for whom the constraint of rules is an intolerable inhibition, it means that pluralism is experienced as uniformity--as the social ethos of rules taking over the whole fabric of private as well as public life.³³

Romantics, by contrast, give a new face to pluralism, even among the more disciplined. Caught up by exuberant visions of a self engaged in

³³Nancy Rosenblum, Another Liberalism: Romanticism and the Reconstruction of Liberal Thought (Cambridge: Harvard University Press), p. 40.

shifting involvements, the threat of ennui, and the danger of intrusions not merely by government but also by secondary association, differentiated spheres of private life multiply the opportunities for cultivating and expressing a fully realized many-sided self. Moreover, to the degree that this new justification underpins pluralism there is even some reason to doubt whether moral communities can be a sufficient basis to enrich and develop the determinant scheme. For in this scheme, the rationale of pluralism is not directed at producing wholeness, happiness, or moral character; instead it is addressed to the needs of inner turbulence, wistfulness, and general discontent. Thus, the larger social ethos that "transcends" all moral communities will, at least in part, mirror inner complication, uncertainty, and profound self-division.

In this development, moral communities may not be as secure in the intent of developing moral lives as one might think because there are certain inherent features that militate against such enrichment of character. The significance of moral communities is that they provide a social sphere in which to develop one's personal ideal. Visions of the good life are not private in the sense that when carried out they have no effect on others. Voltaire, playing off the metaphor of self-cultivation, once likened one's self-development to "tending to one's own garden." But it is sometimes difficult to tend to one's own garden without borrowing someone else's rake, using a neighbor's water, or pushing the weeds under the fence. Consequently, moral philosophers think it is necessary to the flourishing of life styles that they develop within communities of like minded individuals. To ensure that

this is possible other conditions have to be met. These not only include constitutional rights to free association, but the liberty to disassociate when one pleases. Heterogeneous moral communities must not only exist; they must be open and accessible, so that individuals are free to exit as well as enter them. And, while the possibility exists for one to be a member of more than one community, given that these will be accompanied by variant and rival moralities, there are limits to one's membership. As an independent feature, the notion of autonomy, as we have seen, is defined in certain terms to protect the individual from the unbearable intrusions of partial publics. Thus, in this atmosphere it is not unreasonable to presume that the notion of character development will appear foreign. It simply is not part of the moral fiber of a free-floating soul to persevere long enough to develop moral qualities. More to the point of my thesis, in a society where there is no agreement on moral character or the presumption that there should be no consensus, it will be increasingly difficult to judge the appropriateness of certain applications of genetic interventions.

In final analysis, even the option of a pluralistic medical ethics will require principles to make decisions on a wide array of controversial issues regarding the appropriateness of treatment and healthy behaviors. These principles upon which judgements rest cannot be said to fall into Engelhardt's second tier of moral life, and must therefore be considered among the basic social morality that guides medical science. Liberal medical ethicists typically think that matters of sexuality represent a paradigmatic case for the pluralistic approach, and take skeptical stance toward the implicit traditional and religious

assumptions that affect such practices, but would they think the same in the case of genetic intervention to determine the sex of one's offspring. This option is rapidly becoming a "biological" option, if not yet a "medical" one.³⁴ How will the medical community reason through this issue? Although it is unclear how far the liberal is willing to follow the current trend, but the pattern that appears to be emerging within this scheme is to treat these judges as a matter of personal preference subject to very board restrictions based on a risk/benefit consideration. It is worth noting in this context that Jonathan Glover holds a position on genetic engineering compatible with Engelhard's two tier scheme of morality. He envisions a "mixed system" of decision making in which a centralized body operating from a consequentialist frame of reference sets the range of permissible genetic applications,

³⁴Molecular biologists have known since the 1950's that XX chromosomal pairs are female and XY chromosomal pairs are male. The question has been to explain why this is the case and how it comes about. David Page, a medical geneticist with the Whitehead Institute for Biomedical Research, believes that sex determination is caused by a single gene. He speculates that there is a gene(s) whose presence directs the formation of male gametes and whose absence results in the development of female gametes. This gene is generally located on the Y Chromosome. Anomalies, however, do exist. Biologists occasionally discover XX embryos with testes and XY embryos with ovaries. One in 20,000 males really has a chromosomal structure that is XX.

Although Dr. Page explicitly states that the purpose of his research is to find clues to currently untreatable chromosomal abnormalities that render thousands of men and women sterile, he points out that his work has no immediate practical implications for sterile individuals, even though the "studies have shed a lot of light on the genetic basis of sex determination." His research has detected a gene known as "testes determining factor" (TDF). It is the broader social ramifications of his research that spark the attention of the media. If his hypothesis proves correct, geneticists will possess the theoretical knowledge and technical ability to control the ratio among sexes long before they can offer any therapy to sterile individuals. It has been the social rather than the medical dimension that stimulates the medias interest in TDF. Robert Buderer, "Sex and Fertility," Los Angeles Times (November 23, 1987).

and allows parents to make personal choices with that domain.³⁵ However it is resolved, the medical community will need to appeal to some ideal to which the multiplicity of moral communities will be expected to conform. Leaving aside how the philosophers will handle the matter, the layman will refuse to "play God"--an intuition that still has broad appeal. It is still very much a part of their natural piety that the sex of their offspring is not merely given, but that having a boy or a girl is a gift, and not something open to geneticists to manipulate. It is not clear how they will decide, but it is clear that purely formal tests will be ineffective in deciding the case, and that some appeal to determinant moral content will be necessary. Thus, it is reasonable to conclude that the approach to bioethics by adhering to a minimal morality is untenable, in spite of the move to pluralism. Most of the critical moral decisions medical investigators must make in the course of their practice or research involve ways of life. Even if we opt for some version of pluralism, it remains necessary to subject those beliefs to rational debate.

Conclusion

In the foregoing discussion, I have been trying to highlight certain philosophical themes that weigh heavily in deliberations about genetic intervention. Before I move to a closer examination of these, it might be useful to highlight them once again in summary fashion. One of the most prominent themes in the contemporary debate is the reliance on consequentialism as the underlying pattern of rationality. As we

³⁵What Sort of People Should There Be? (New York: Penguin Books, 1984), p. 51.

have seen, there is some disagreement as to the scope of its authority, as well as the value(s) taken as intrinsic to a given theory. Yet the means-to-an-end pattern makes it flexible to conforming to the changes in the empirical data, therefore, attractive to judging scientific research projects. In future chapters, I will need to look more in detail at how this normative approach is implemented in assessing the ethics of gene therapy. For now, it will be taken for granted that it occupies an integral part of contemporary bioethical frameworks. Beyond this structure, we have seen the importance of the newly emerging notion of autonomy as self-creator. While it is not always clear how autonomous self-expressivism interrelates with consequentialism, it is nevertheless evident as an essential feature to judging the appropriateness of a genetic application. The most characteristic way of linking the two is by attaching autonomy as a side-constraint that supposedly limits what means can be properly applied to establish a specific outcome. The question at this point is whether autonomous agency combined with consequentialism can set genuine limits. I will have occasion to explore this in detail in subsequent chapters. It might be useful to note at this point that the peculiar respect given to human life is a competing value that might also serve to act as a constraint on consequential policies. But it has been given less attention because of the general erosion of the traditional conscience that supports this norm.

Chapter 5

THE MORAL JUSTIFICATION OF GENE THERAPY:

A CRITIQUE OF RISK/BENEFIT ANALYSIS

The purpose of the first part of my discussion was to justify, in an admittedly sweeping fashion, two assumptions about the contemporary crisis in biomedical ethics which will be made in the remainder of my discussion. They are that (i) the source of the contemporary moral confusion in biomedical ethics is the disintegration of our traditional moral beliefs that functioned as an interpretive framework for our fundamental moral intuitions which in turn shape our judgments about the applications of newly emerging genetic technologies; and that (ii) the alternative schemes possess certain philosophical commitments which could be used to support the present trend toward greater genetic control over human nature. There is a growing recognition today that background theories comprising wide-ranging theoretical commitments in the human sciences significantly shape ethical judgments. The same supportive role is true in the life sciences in relation to biomedical ethical deliberations. Background theories, moreover, are commonly thought of as an integrated set of beliefs that serve as a frame of reference for moral experience, and are thus represented in global terms. The ideal frameworks or world views presented in the earlier chapters have much the same intellectual effect. I have tried to develop the interplay between the schemes, culminating in the rough contours of contemporary bioethics. More importantly, I have emphasized

those logical structures within each scheme that contribute to normative judgments about the appropriateness of genetically engineering human beings. Important though these beliefs are, they only contribute to normative judgments. My task in the subsequent chapters will be to explore the normative theories used by bioethicists and medical geneticists to substantiate their attitudes toward genetic manipulation, and to link features within those normative systems to the broader commitments previously discussed.

I will begin that discussion in this chapter by taking up the question of the appropriateness of practicing genetic engineering on human beings, an issue which I think has all but been neglected in this important debate.¹ By appropriateness I mean the ethical propriety of actions taken to change human nature directly through genetic means. No doubt an interest in this question will strike many as misguided; after all it will be said, all that rational analysis can do is concern itself primarily with the individual and social consequences of applying this genetic technology that follows from a rational course of action—not with questions about the intrinsic rightness or wrongness of specific applications. These questions are unanswerable, inscrutable, or perhaps worse, sheer nonsense. For these sorts of investigations presuppose

¹The Committee on the Life Science and Social Policy, Assembly of Behavioral and Social Sciences, National Research Council commissioned a study stating that "technologies that bear upon human biological nature force attention to crucial questions about what human beings are and what they should be." But while it asserted these questions are important and urgent to the systematic evaluation of biotechnologies, it elected not to pursue them, opting instead to focus on the broader social consequences of these technological applications. In Assessing Biomedical Technologies: An Inquiry into the Nature of the Process. (Washington, D.C.: National Academy of Sciences, 1975), p. 3.

some insight into what is distinctively human, and it seems the modern philosopher under pressure from modern biology has given up on that project. To the extent that bioethics can say anything intelligible, it must leave those matters to personal preference should the time come when gene therapy reaches a more developed stage. Nevertheless, whatever the source for its neglect, appropriateness is the justificatory question regarding applications of biotechnological advances in human genetics on human subjects, and surely the single most important question from the perspective of common-sense morality. The full impact of this consideration is not easily ignored, even by the medical imagination with scientific explorations and genuine concern to relieve human suffering. Assumptions regarding the proper human needs and purposes that may ethically be advanced by the use of gene therapy have to the chagrin of contemporary thinkers readily surfaced in considerations related to technology assessment.

Engelhardt, for instance, claims that the business of secular bioethics deals with reconstructing a framework by which to interpret ordinary moral intuitions. This claim follows from the expulsion of the received understanding of human nature brought about by the newly emerging biotechnologies and pluralistic moral schemes divesting the traditional conscience of its authority. If true, this confronts the bioethicist with a sobering set of circumstances. The standard justification for developing and implementing biotechnologies such as gene transfer is the proposition that these meet or are guided by goals, pur-

poses, and needs which are important to being human.² That defense, however, suggests a tacit commitment to certain interpretations of human nature. But the mere acknowledgement of a residual nature narrowly defined in evolutionary terms and unfavorably appraised by contemporary bioethicists, or the absence of a concept of human nature altogether, is not capable of sustaining the standard rationale. Accordingly, the bioethicist must either find a new way to justify these common-sense convictions about human nature or modify them in order to suit the present scientific understanding of the human condition. The former option provides guidance for development and applications of biomedical technologies. The effect of following that line of reasoning would be to set limits on certain types of genetic manipulations, especially those based on certain sorts of rationales. The latter alternative, while seemingly more philosophically fashionable, not only occasions the proliferation of autonomous biomedical technologies, but encourages a pragmatic approach conducive to unethical applications in human beings.

This problem has not yet been fully appreciated among medical researchers because within the medical context it is masked by the genuine therapeutic concern to alleviate misery through restoring normal biological functions. To be sure, relief from pain and suffering is among the most exigent needs of human beings. But that perspective, too, can be and has been seriously challenged for being itself a value

²For a discussion of this point see Langdon Winner, Autonomous Technology: Technic-out-of-Control as a Theme in Political Thought (Cambridge: The MIT Press, 1977), pp. 227-228. Unlike Winner, who ascribes the proliferation of technology to a socio-economic cause, I argue that it is fundamentally a change in moral beliefs exacerbated by cultural stimuli. See above p. 121.

judgment. As these intellectual influences take hold in society, new pressures to extend gene therapy beyond this narrow purpose will become more pressing. In that climate, it is not clear how ethicists will respond to questions about increased genetic control over natural processes. The medical community will, of course, be the sole curator for whatever manipulations occur. Oblique appeals to medical aims will be viewed by people with increasing suspicion--not so much from fear of abuse, though some will think that, but rather from skepticism as to whether medicine can any longer be said to have a distinctive aim linked to human needs. By this reasoning some bioethicists will admit that ethical answers are possible by reference to particular beliefs about the human condition. Engelhardt, and those favorably disposed to his two-tier morality, however, might think that option unacceptable because it makes the requirements of the ideal coextensive with the professional medical ethic. They might, however, be prepared to argue that a rational choice can be made among the alternative conceptions of human nature. But movement in this direction surrenders the sharp dichotomy that characterizes discussions on human nature as reflecting profound truths which are incommensurate with one another. Short of this move the researcher is caught without any substantive content for moral reflection. No doubt one could move toward scientific understanding of human nature, as Bernard Davis³ has suggested, and justify his choice of genetic applications on the basis that it offers the best balance of benefits over risks for the patient. But by introducing utility into matters that involve human nature, the medical researcher further dis-

³See above pp. 47ff.

tances himself from the ordinary man's commitment to the supreme importance of human life. A preoccupation with the issues surrounding efficient biological functioning diverts attention away from the main consideration that the layperson judges as fundamentally important, but which does not readily conform to the means-end pattern: Whether to and to what extent is gene therapy appropriate treatment for human beings? If bioethicists address this question at all, it is quickly overtaken by a concentration upon desirable and undesirable social consequences. Hence, from the perspective of common-sense morality, at least, medical research fails to offer a penetrating vision for the ethics of genetic research.

I want to reverse this emphasis in contemporary discussions by focusing narrowly on the appropriateness question. The bulk of my discussion will involve an ethical examination of biotechnological assessment. This is generally understood as a systematic study of the social consequences produced by introduction of a given biotechnology. The effects studied include those that are unintended, indirect, as well as delayed. The social focus, however, is tempered by strong emphasis upon the individual; therapeutic interests are satisfied by similar kinds of considerations as they pertain to the subject-patient. My central criticism of this method is that its underlying normative rationale does not address the issue of appropriateness, because it is directed solely at evaluating states of affairs. I will conclude that our ordinary intuitions about the inviolability of human life is threatened by certain forms of genetic intervention because risk/benefit analysis (RBA) is indifferent about decisions regarding the appropriateness of

that activity. Accordingly, it fails to safeguard what is commonly thought to be within the permissible range of therapeutic treatment for human beings.

Interpreting the Ordinary Man's Attitudes
toward Gene Therapy

Why is gene therapy so controversial to the ordinary person if its medical purposes seem morally laudable and the state of affairs that would result from its cautious applications so beneficial? I should say up front that seeking an answer to this question turns out to be harder than it might seem at first. This is even more so if one is to do justice to the concerns and beliefs of the unsophisticated, as well as the scientifically informed.

Although this medical technology has the awesome potential for alleviating suffering and curing certain kinds of diseases, the layperson continues to be somewhat apprehensive about genetic interventions. What is interesting to notice is the interpretive twist that is given to this confusion. Commenting on a recent survey commissioned by the Congressional Office of Technology Assessment (OTA), the Wall Street Journal reported that "Americans appear to be extremely pragmatic in their feelings about genetic engineering and other aspects of the biotechnological revolution: They worry considerably about the potential risks but approve most specific uses of the new knowledge."⁴ The reporter's spin leads us to believe that the ordinary man's assessment is based exclusively on the desirability of the consequences of applying

⁴Alan L. Otten, "In Poll about Genes, Most Say That Ends Often Justify Means," (May 28, 1987).

this novel biotechnology. I suggest that the layperson's intuitive response is much more complicated than merely giving approval to a technology that is safe and effective in achieving certain results.

Could it be that our ordinary moral beliefs regarding proper respect for human beings are compatible with current biotechnological advances, but incompatible with certain trends in contemporary secular bioethics which either sanction unacceptable changes in human nature, or do not possess the conceptual constraints to prevent its degradation? That is, certain moral demands of the traditional conscience are out of phase with what appears to be a newly emerging aim in biomedical research to extend control over all natural processes (e.g. genetic manipulation of germ-line, gene mapping, and, less remote, sex determination). One thing is clear: this concern is fundamentally a moral one; it cannot be entirely settled by a fuller understanding of the technology of gene therapy. The "pragmatic feelings" of the public regarding powerful new biotechnologies, noted by the reporter in the Journal, might have less to do with the beneficial usefulness of the biotechnologies than with these implications they pose for challenging their profound understanding and commitment to the supreme regard for human life. These common-sense sentiments are reflected in Leon Kass' warning that "we must all get used to the idea that biomedical technology makes possible many things we should never do."⁵

It is tempting to suggest that we have simply reached a point where biotechnology has confronted us with the limits of long estab-

⁵Leon R. Kass, "The New Biology: What Price Relieving Man's Estate?" in Bioethics, ed. Thomas A. Shannon (New York: Paulist Press, 1976), p. 316.

lished beliefs. We have outgrown our traditional roots. This line of thought could be supported by drawing attention to the moral ambivalence about gene therapy. One implication of this understanding is that our traditional moral beliefs about human nature need serious revisions or a surer foundation. But this interpretation of our contemporary confusion in bioethics is too much of a simplification. Even if biotechnology as such is neutral, in the sense that it does not determine the goals of a policy, it is widely thought that biotechnological applications which make certain goals realizable are subject to ethical evaluation. Biotechnology is not a blind cultural force that moves fatalistically yet steadily along, it is directed by some agency.⁶ Although this is not a profound observation, it has significant implications for the socialization of biotechnology. Bioethicists commonly cite rapid changes in biotechnology as one of the cultural pressures shaping the moral outlook of Western society. Their point is that morals must change in order to keep up with the times. The argument is illusory. It is more plausible to think that a shift in moral beliefs makes possible the advent of biotechnology. As we will note in the rest of the chapter, the importance of biotechnology can be evaluated differently depending upon the normative system. For example, a normative theory wedded to maximizing certain outcomes will require various technological developments if it appears that these states of affairs can be reasonably achieved by the applications of those techniques. By contrast, an ethical point of view that is not dictated by specified out-

⁶The reference to agency need not be construed narrowly to apply only to one single or coherence cause.

comes will be in a position to evaluate the development of each biotechnology independently. For each scheme, of course, the proponents will claim to be tailoring biotechnology to meet human needs. But any moral justification of technological application that makes this appeal needs to be related in an intelligible way to some underlying conception of human nature and purposes. This, however, is the framework that has been abandoned. This is the phenomenon that is the source of the contemporary confusion concerning gene therapy, which in turn is further magnified by the rapid growth in biotechnology. Thus, the socialization of biotechnology is more complicated than it might at first appear.

The Journal which is sensationalized; all Americans are not fundamentally pragmatic in their overall moral outlook; at least, not where urgent matters of respecting human life are at issue. The attempt, however, to explain common-sense moral distinctions in utilitarian terms is not unfamiliar to the history of moral philosophy. From Hume to Sidgwick, there has been a concerted effort by consequentialists to claim that the principle of utility, requiring the greatest possible balance of benefit over risk, is the unifying principle that explains the persuasive appeal of moral intuitions recognized by common-sense. David Hume (1711-1776) maintained that common-sense morality is essentially a repository of accumulated human moral experience regarding the consequences of postulates and actions directed at promoting the general happiness.⁷ John Stuart Mill (1806-1873) thought that the utilitarian principle is a disguised demand organizing our

⁷David Hume, A Treatise of Human Nature, ed. L.A. Selby-Bigge, First Edition (Oxford: The Clarendon Press, 1978), p. 577.

intuitive moral distinctions like justice.⁸ Henry Sidgwick (1838-1900) was preoccupied by the relation of utilitarianism to common-sense morals. He held that "whatever be the origin of our notion of moral goodness or excellence, there is no doubt that 'utility' is the general characteristic of the dispositions to which we apply it: and that, so far, the Morality of Common Sense may be truly represented as at least unconsciously utilitarian."⁹ In light of this capsule history on the consequentialist attempts to reinterpret common moral attitudes in accordance with utilitarian standards, the Journal's reading of American sentiments might secure intellectual support.

The tendency to suppose that all moral reasoning is basically outcome oriented certainly persists in contemporary research ethics. The ease with which Alexander Capron moves from his recommendation that the principle of utility be the central principle in the ethics of biomedical research to its presumed role in confronting risk at all levels of every day life reveals more than a suggestion about the prominence of the utilitarian principle in all of moral reasoning.

Second, when the process of research ethics works well it achieves a good balance between risks and benefits. It is important in this context to stress that the search is for a balance of risks against benefits and not for the abolition of risk. To live is to face risk--certainly the venture into the unknown that is scientific research cannot be undertaken without risk. But no process does--or can--be expected entirely to obliterate them.¹⁰

⁸John Stuart Mill, Utilitarianism, ed. Oskar Piest (Indianapolis: Bobbs-Merrill, 1957), chapter 5.

⁹Henry Sidgwick, The Methods of Ethics, Seventh Edition (Indianapolis: Hackett Publishing, 1981), p. 424.

¹⁰Alexander Capron, "Prospects for Research Ethics," in Research Ethics, ed. Kare Berg and Knut Erik Tranoy (New York: Alan R. Liss, 1983), p. 390. [Emphasis mine]

One should observe, however, that while facing risk is a common experience for both the ordinary man and the scientist, it is far from evident that the two handle risk in the same way.¹¹ Capron implies that any risk management worthy of the title "ethics" must necessarily include the principle of utility. But the layman does not handle risks in that same manner. He does not constantly look to maximize net benefits, at least not always and certainly not necessarily.¹² Thus, one does not become a consequentialist simply by recognizing the importance of handling risks as part of everyday life. Moreover, to remake the traditional conscience into a conscious consequentialism distorts the complexities of common-sense morals, and diminishes the importance of the subtleties associated with them that are essential support for certain intuitions. A good illustration of this point is the prompt dismissal

¹¹James Childress also persists in this muddle: "The case can be made that patients, physicians, researchers, and policymakers--particularly the last--all use some form of cost-benefit analysis." In "Risk" Encyclopedia of Bioethics vol. 4 (New York: The Free Press, 1978), p. 1520.

¹²Steven Kelman, in "Cost-Benefit Analysis: An Ethical Critique" Regulation 5 (January/February 1981), pp. 33-40, raises a similar objection with regard to cost-benefit analysis but for different reasons. He argues that wholesale application of this methodology (e.g., health care cost assessments) distorts the ordinary deliberative process. Formal cost-benefit analysis consciously establishes equivalencies between the value to be quantified and the measured value. The standard denominator for making comparisons is usually stated in monetary terms, but benefit (or effectiveness) is often stated in "lives saved," "disability avoided," "quality-adjusted life years saved," or other relevant objectives. The point he makes, however, is general. In assessing risk, it is not a simple matter of making certain thought processes explicit that are otherwise implicit or unconscious. In enlightening the ordinary person, consciousness raising about risks adds the rigor of an additional principle (i.e., maximizing utility) that is not otherwise present. The question then becomes one of justifying this additional principle that can alter one's total orientation toward the unconditional value of human life in medical research.

by the President's Commission of the religious leaders' theological concern over the self-creative powers of genetic engineering. In the Commission's opinion their solicitations raised no substantially different concerns than those previously raised on secular grounds.

While religious leaders present theological bases for their concerns, essentially the same concerns have been raised--sometimes in slightly different words--by many thoughtful secular observers of contemporary science and technology. . . . The examination of the various specific concerns need not be limited, therefore, to the religious format in which some of the issues have been raised.¹³

In shifting the discussion to an exclusively non-religious context the debate might change the focus significantly. The issue is not simply whether the discussion must take place solely within a religious setting, but whether and to what extent religious beliefs can be relied on at all to express the deeply held convictions of the traditional conscience. One gets the distinct impression from reading this and similar passages that the demands of common-sense morality are not merely coincident with consequentialism--which supposedly can be easily rectified if only one attends carefully to them--but they are a form of unconscious or even confused utilitarianism. Thus, the Commission took comfort in its finding:

None of the scholars appointed to report their views by the three religious bodies that urged the Commission to undertake this study suggested that either natural reason or revelation imply that gene splicing technology as such is "unnatural" in this prescriptive sense. Although each scholar expressed concern over particular applications of gene splicing technology, they all also emphasized that human beings have not merely the right but the duty to employ their God-given powers to harness nature for human benefit. To

¹³President's Commission for the Study of Ethical Problems in Medicine and Biomedical and Behavioral Research, Splicing Life (Washington, D.C.: U.S. Government Printing Office, 1982), p. 54. [emphasis mine].

turn away from gene splicing, which may provide a means of curing hereditary diseases, would itself raise serious ethical problems.¹⁴

In this the Commissioners are correct, but from the proposition that people everywhere, even religious people, are to act benevolently, it does not follow that in matters fundamentally affecting human life they must always choose the most efficient course of action. Moreover, they too quickly assume that the ethical action as determined by the principle of utility is indeed one that necessarily respects our humanness. The ordinary person will often choose less than the maximally optimal alternative precisely because it is thought to best serve human well-being. It is consequentialist requirement of efficiency that is being contested, and it is in the resistance to that demand that I see the wisdom of common-sense morality. The case for unconscious consequentialism, were that the intent in seeking wider approval for certain forms of gene therapy, faces a major objection on the grounds that the greater the divergence between the judgments of consequentialism and common-sense morality the less compelling the explanation. In questions respecting human life in biomedical research and health care, there is no greater divergence between the dictates of the traditional conscience and consequentialism.¹⁵ Evidence for this claim

¹⁴President's Commission for the Study of Ethical Problems in Medicine and Biomedical and Behavioral Research Splicing Life (Washington, D. C.: United States Government Printing Office, 1982), p. 56.

¹⁵A. John Simmons uses the "sanctity and dignity of human beings" as an instance where there is great divergence between common-sense and consequentialism to bolster his argument against the unconscious utilitarian thesis. Because the common-sense morality "may consist in absolute, or virtually absolute, prohibitions, where the ideal utilitarian rules would require exceptions of various sorts," it is not a body of principles that is conducive to maximizing states of affairs; "Utilitarianism and Unconscious Utilitarianism," in The Limits of Utilitarianism, Harlan B. Miller and William H. Williams, eds., (University of Minnesota Press, 1982), p. 97.

comes from the insistence by some bioethicists, as well as government commissions, that there is a need for non-consequentialist side-constraints to supplement consequentialism.¹⁶

An alternative reading of the common-sense perspective about risks is that the system for weighing risks against benefits does not seem to set any real limits on man's right to modify his biological constitution, apart from those based on the estimation of consequences. The merits of those outcomes and the causal links that bring them about will be judged according to what is taken as the intrinsic value of the system. If human life is taken to possess intrinsic value, tolerating certain "inefficiencies" in our biological constitution is seen from the layperson's perspective as a way of respecting human life, while from the scientific humanist's point of view our biological inefficiencies will be seen as natural imperfections to be corrected. Much of the moral confusion surrounding genetic engineering is traceable to the failure of the consequentialist mind to appreciate the position that with regard to the sanctity and dignity of human beings, the ordinary person is prepared to countenance practices that produce good but not ideal outcomes by the standards of consequentialism. The common-sense view, of course, defies instrumental reasoning on this point as it is intended to do in order to show that human life is unconditionally valu-

¹⁶For a listing of the additional principles recommended for a supplementing biomedical research ethics see National Commission for the Protection of Human Subjects, The Belmont Report: Ethical Principles and Guidelines for the Protection of Human Subjects of Research. (Washington, D.C.: Department of Health Education and Welfare, 1978), pp. 17-18.

able and ought not to be compromised, even for highly valued but instrumental (non-intrinsic) qualitative experiences. If the only acceptable standard of rationality is a means-to-end pattern, then obviously allowing certain inefficiencies in our physiological make-up as an expression of valuing a higher good will be viewed as irrational. As it turns out, consequentialism does not establish sufficient boundaries to approximate the significance that the ordinary person attaches to life. And those that it constructs, as we will see in the next chapter, offer no more than merely contingent assurances that they will protect human life from adverse pressures. In other words, it may very well be the case that, for reasons independent of a consequentialist scheme, the current prospect of body cell therapy is thought not to violate the integrity of human life. But the apprehensive attitudes are the intuitive response to further applications (e.g. germ-line manipulation) that, justified solely by the desired consequences, will substantially deviate from common beliefs about the dignity and respect properly accorded to human life. Therefore, while somatic cell therapy lacks the attraction of the Promethean ethos present in other more dramatic forms of genetic control over natural processes, approval of the consequentialist justification for body cell therapy would wed the layperson to further intrusions that transgress the sanctity of human life. One might reasonably choose to accept certain inefficiencies--that save fewer lives or alleviate less pain and suffering than what might otherwise be the case--in order to maintain the sacredness of the whole human being. That is an issue that forces one to judge the merits of competing normative bioethical theories. But if consequentialists

insist that they are willing to accept some risks as a trade-off to improve the quality of life, why should we not also accept some risks of specific inefficiencies of biological or higher human traits in order to maintain the integrity of the unique value of human life? The apprehensiveness among laypersons, then, has less to do with body cell therapy than with future interventions, the technology for which is not currently feasible, but indeed appears inevitable. I concur with this common wisdom, and sympathize with the moral sentiments that support it.

A Critique of Risk/Benefit Analysis (RBA)

There are several reasons why this common wisdom reflects good judgment; to see this, however, it is essential to critically examine some of the central philosophical assumptions of risk/benefit analysis. This is the method by which many bioethicists purport to provide the sure moral foundation for gene therapy. Roughly speaking, RBA is a two step procedure. The first step involves a sober assessment of the probable states of affairs resulting from the application of an innovative treatment, describing it in terms of risks and benefits both to individuals and society.¹⁷ The second step involves an evaluation of the policy which will bring about the maximum beneficial results.

¹⁷Most studies on technology assessment recognize that the first step is not purely value-free. But an attempt is made to separate the description of risks and their evaluation (the second stage of review) in order to maintain value neutrality. Committee on Risk and Decision Making, Assembly of Behavioral and Social Sciences, National Research Council, Risk and Decision Making: Perspectives in Research (Washington, D.C.: National Academy Press, 1982), p. 33.

Biotechnology Assessment. With respect to the assessment stage, the researcher is required to present a review of the biotechnology under consideration, as well as the risks and benefits that follow from its application. The categories of risk set forth by the National Commission for the Protection of Human Subjects of Research (NCPHSR) include physical, psychological, social, legal, and economic. Much of the thinking that goes on at this level in the procedure is often spoken of as "technical" because it is devoted to identifying, and categorizing the sorts of risks and benefits, and weighing or assigning probable occurrence of harms.¹⁸ As a scientific method, however, RBA makes enormous demands on supposed empirical information, peoples' preferences, and other information that is not only largely unavailable, but shrouded in conceptual difficulty. It would be unfair, however, to say that RBA is blind to this problem, for the procedure is taken as an ideal rather than a model that relies on strict mathematical quantification. Nevertheless, these problems are seen as technical or practical difficulties, and RBA appeals to a frame of mind in which technical difficulty, even insuperable technical difficulty, is preferable to moral unclarity.¹⁹

But before moving to an examination of RBA, it is helpful to review the current state of the art in genetic medicine. Whatever one might think about the onslaught of moral philosophers into the field of

¹⁸LeRoy Walters, "The Ethics of Human Gene Therapy" Nature, vol. 320 (March 20, 1986), p. 225.

¹⁹For proponents of the point I am criticizing see Tom L. Beauchamp and James F. Childress, Principles of Biomedical Ethics (New York: Oxford University Press, 1979), p. 149.

medical research and practice, it is obvious from their lack of technical knowledge and medical training that they cannot settle these ethical questions by themselves. In order to understand what is being debated, however, it is essential to discuss the nature of genetic disease, types of diseases selected as possible candidates for treatment, and the definition of gene therapy currently being examined.

Each year about 5 per cent of liveborn infants in the United States are affected by a genetic disease. Genetic diseases fall into three major groups.²⁰

Multifactorial. These result from complex interactions between one or more genes and the environment. The inheritance patterns are not predictable, so that the prospect of these diseases being controlled is unlikely in the immediate future. Commonly known examples would include congenital heart lesions, neural tube defects--such as, spina bifida and anencephaly--juvenile diabetes, schizophrenia, and high blood pressure.

Chromosomal. The diseases that fall into this category result from a microscopically visible increase or decrease in the total mass of chromosomal material in the cell, or from an abnormal arrangement of chromosomes. Down Syndrome, which is caused by an extra chromosome 21, is a widely known instance of this type of disorder. It is believed that gene therapy may eventually be able to ameliorate some of the symptoms of some of these chromosomal disorders, and hence reduce their severity; but it is unlikely that it will ever be able to "cure" any of these conditions.

Mendelian Disorders ("Single-Gene" Diseases). This category has the most relevance for my discussion because current technology is directed at controlling these diseases. These disorders are caused by the improper functioning of a single gene within the cell that results in inappropriate levels of enzymes regulating specific metabolic processes throughout the organism. Nichols estimates that there are about 4000 monogenetic disorders of which only 250 are reasonably understood. Diseases specific to this grouping include, for instance, sickle cell anemia, cystic

²⁰For this technical discussion, I am heavily indebted to Eve K. Nichols for her remarkable handling of scientific concepts and language; Human Gene Therapy (Cambridge: Harvard University Press, 1988). What follows is my summary of her material in ch. 1.

fibrosis, Duchenne muscular dystrophy, hemophilia, phenylketonuria (PKU), and Tay-Sachs disease.²¹

Medical research has focused on the single-gene diseases because they follow predictable patterns of inheritance that can be explained and controlled according to the Mendelian laws of genetics.²²

Autosomal Recessive. Recessive diseases require the presence of a pair of mutant genes. Parents of the afflicted child are usually healthy carriers. They are heterozygotes having one normal and one defective gene. Each offspring has a 25 per cent chance of inheriting the disease. These disorders affect males and females alike, and are diagnosed during infancy or early childhood. Sickle cell, cystic fibrosis, Tay-Sachs, and PKU all follow the autosomal recessive pattern of inheritance. Most geneticists estimate that everyone inherits about 6-7 recessive mutations, although these never develop into genetic diseases.

Autosomal Dominant. The abnormal gene "dominates" its normal counterpart. In this pattern of inheritance one mutant gene is sufficient to cause the disease. Assuming only one parent has the disease, each child has a 50% chance of inheriting the mutant gene, with both males and females being equally affected. Examples of actual diseases that follow this pattern include Huntington, familial hypercholesterolemia (high levels of cholesterol that leads to early coronary artery disease), and polycystic kidney disease. Unlike autosomal recessive patterns of inheritance, dominant disorders show two identifying characteristics: (i) symptoms of onset usually do not appear until adolescence or later; and (ii) the clinical picture varies with each individual so it is difficult to recognize that affected family members have the same genetic disease.

Sex-linked Disorders. Human beings have two sex chromosomes. Females possess an XX configuration and in males an XY. Sex-linked diseases are a result of a mutant gene usually on the X or female chromosome, transferred to the offspring from the mother. Typical sex-linked diseases (i.e. recessive traits rather than dominant) develop only among male offspring, even though there is

²¹Immunologic Materno-fetal Incompatibility. Arno Motulsky adds this group as a fourth category. I add it here for the sake of completeness. These diseases are caused by genetically conditioned incompatibility between the mother and the fetus. Common instances are the Rh disorders.

²²For a fuller discussion on inheritance patterns see Eve K. Nichols, Human Gene Therapy, ch. 2. What follows is a summary of her research.

a 50 per cent chance of occurrence among both male and female child, because males lack a second X chromosome which masks the abnormal gene on the corresponding chromosome. Females with the mutant remain carriers. Duchenne muscular dystrophy, hemophilia A, and Lesch-Nyhan syndrome are among the better known sex-linked recessive diseases.

Gene therapy is only directed toward curing or ameliorating diseases following Mendelian inheritance patterns. There are several different techniques that might be referred to in discussions regarding gene therapy. The different forms would include (i) gene insertion, in which a new version of a gene is introduced into a cell; (ii) gene modification, in which a gene already in place is altered; and (iii) gene surgery, in which a particular gene is excised and may also be replaced by its normal counterpart.²³ According to W. French Anderson, a prominent pioneer researcher in this field, the current prospects for human gene therapy involve only gene insertion.²⁴ That is, the therapy currently envisioned is retrospective and not prospective. But none of these other technologies raise ethical issues separate from the ones I will be discussing in relation to gene insertion.

There is a standard catalogue of direct and indirect negative consequences that have been well documented and discussed in the literature.²⁵ I shall only list the more prominent ones; I do not intend the

²³Office of Technology Assessment, Human Gene Therapy: Background Paper (Washington, D.C.: Government Printing Office, 1984), p. 5.

²⁴"Prospects for Human Gene Therapy", Science, 226 (1984): 401-409.

²⁵Splicing Life, pp. 60-79; Congress of the United States Office of Technology Assessment, Human Gene Therapy: Background Paper (Washington, D.C.: U.S. Government Printing Office, 1984), pp. 17-26, 28-33; Eve K. Nichols, Human Gene Therapy, pp. 162-173; H. Tristram Engelhardt, "Persons and Humans: Refashioning Ourselves in a Better Image and Likeness" Zygon 19 (September 1984), pp. 281-295; Theodore Friedmann, Gene Therapy: Fact and Fiction, A Banbury Public Information

list to be comprehensive. The direct therapeutic effects include:

- (a) serious physical harm resulting from a malfunctioning gene or vector (e.g., cancer);
- (b) inadvertent alteration of germ cells resulting in transmission of mutation to the patient's progeny; and
- (c) adverse psychological effects including lower self-esteem or shattered expectation resulting from failure of trial attempts.

The indirect effects include:

- (d) unknown changes in the gene pool and general evolutionary process (e.g., loss of genetic diversity);
- (e) changed notions and practices in parental responsibility for the genetic health of the children (e.g., mandatory screening and treatment similar to PKU testing, and increased "wrongful life" suits against parents who did not provide proper genetic therapy);
- (f) social stigma and political misuses (e.g., insurance denials and unjustified screening for ethnic "disorders"); and
- (g) commercial and economic exploitation.

Applications of germ-line therapy present further complications:

(h) permanently irreversible changes in the progeny and (i) experimental research exclusively on fetuses.

The initial benefits of genetic engineering relate directly to the relief of suffering and possibly the cure of some fatal genetic diseases. Beyond the direct benefit to the patient, there are promises to indirectly benefit human health and well-being. These include pharmaceutical applications, diagnostic tests, and a therapeutic alternative to abortion of some genetically defective fetuses.

Report (Cold Springs Harbor, ME: Cold Springs Harbor Laboratory, 1983).

To sum up my discussion, the present state of gene therapy has a very defined scope determined by certain controllable diseases that follow predictable Mendelian laws of inheritance. These diseases are all defects of a single-gene disorder, and are characterized by their recessive property whether on autosomal chromosomes or sex chromosomes. Those genes that influence personality and other distinctively human traits are all multifactorial disorders and fall outside the scope of current technology. Most of these diseases result from mutations in gene coding for enzymes regulating the metabolism rates in the body. In the absence of the specified enzymes, certain biochemical reactions fail to produce the proper level of cell products that ultimately lead to phenotypical expressions of the disease. Not all genetic disorders are properly considered diseases. Among the recessive disorders, a genetic disease is defined in terms of the presence of defective homologous genes for the same trait.

Biotechnology Evaluation. The evaluation stage of RBA is carried out by weighing the risks of harm against the expected benefits that will result from the application of a therapy. To illustrate this point it is helpful to consider a past regulation of the Department of Health and Human Services (HHS) that states the ethical standard for determining appropriate research. There the Secretary charged institutional review boards (IRB) to

b) determine whether . . . subjects will be placed at risk, and if risk is involved, whether: (1) the risks to the subject are so outweighed by the sum of the benefit to the subject and the importance

of the knowledge to be gained as warrant a decision to allow the subject to accept these risks²⁶

Although HHS regulations no longer require that the IRB be the primary evaluator of research programs, with the language being changed to reflect that development, the standard of minimizing risk and maximizing benefit continues as the fundamental standard, and remains a serious procedure for public policy decision-making.²⁷

Formally speaking, RBA is a variety of consequentialism. According to this normative theory, ethical evaluations are based solely and exclusively on the consequences or states of affairs that are produced from a course of action. Actions are ethical only to the extent that they contribute to the production of the desired state of affairs. Both these states of affairs and actions are specified in terms of risks and benefits. Also, essential to all forms of consequentialism is the maximizing doctrine that identifies the right action as the one which

²⁶U.S. Department of Health and Human Services, 45 Code of Federal Regulations Subtitle A, Section 46.2 (b) (1) (1974 edition). The current DHHS regulation has been revised calling on the IRB to determine whether the "risks to subjects are reasonable in relation to anticipated benefits, if any, to subjects, and the importance of the knowledge that may reasonably be expected to result." 45 CFR Subtitle A 46.111 (a) (2) (1985 edition). This change in language does not change the standard of evaluation, which is the point I am discussing in this section. The rescission of the earlier language reflects a change in the agent or agency doing the primary evaluation. It is now believed that this decision should be made jointly by the investigator and the subject rather than the IRB. For a discussion this development see Robert J. Levine Ethics and Regulation of Clinical Research (Baltimore: Urban and Schwarzenberg, 1981), p. 46.

²⁷Robert J. Levine, Ethics and Regulation of Clinical Research, pp. 41-48.

results in the best state of affairs.²⁸ This doctrine is alternatively known as the principle of utility, which defines the best state of affairs in terms of the option that shows the greatest possible balance of benefit over risk. This means that a consequentialist cannot seriously entertain the notion of a right action as one that is conducive to an outcome which is less than the optimal state of affairs; indeed, that proposition will even appear incoherent. The strength of consequentialism rests with the validity of that central doctrine, and with the extent to which it represents the ordinary person's moral conviction about the peculiar importance placed on human life. That strength is genuine, of course, only if consequentialists apply their distinctive doctrine consistently.

The admission that common-sense moral beliefs are relevant to assessing the theoretical commitments of consequentialism, and for that matter normative theories generally, is controversial.²⁹ But the relevance of introducing it arises from the difficulties that consequentialism has in giving due consideration to fundamental moral intuitions. I insist that they must be taken seriously. I have already

²⁸The alternative formulation defining an ethical action as one that minimizes the amount of misery and suffering incurred by an individual has equal relevance to biomedical research. The distinction between maximizing happiness and minimizing pain is used to contrast the eugenic and therapeutic contexts. I shall take up the minimizing position in the next chapter. Many of the points I will be making regarding the failure to set limits are applicable to both forms in virtue of their consequentialist logic.

²⁹For a survey of the issues see Michael D. Bayles, "Intuitions in Ethics," Dialogue, Canadian Philosophical Review 23 (September 1984): 439-55; William H. Shaw, "Intuition and Moral Philosophy" American Philosophical Quarterly 17 no. 2 (April 1980): 127-134; Leigh B. Kelly, "Anti-Intuitionism and Reflective Equilibria Revisited," Pacific Philosophical Quarterly 69 (1988): 201-221.

drawn attention to the reality that the ordinary person does not treat the value of life as a maximizing principle. This fact about the common-sense point of view alone initially casts doubt on RBA. Granting that the public perceives biomedical ethics as too impoverished to pose any serious limitations on the use of technology to meet human needs, beyond a weak set of provisos ensuring that the subject is fully informed of the ramifications of the experimental therapy,³⁰ it is pertinent to examine the reliability of their concern and any implications that this lack of limits to medical research might have for challenging the special importance given to human life. I will be developing this point in the ensuing chapter.

There are several important features of RBA as it is used to examine biomedical technologies which are of interest to the common-sense perspective, and thus should be discussed at the outset. First, the principle of utility when applied within the context of biomedical research has two important logical implications. The one which dominates philosophical discussions on gene therapy is the requirement that a therapeutic intervention is ethical only if its application will reasonably yield the maximally beneficial outcome. Biomedical research has as its aim the advancement of generalized medical knowledge, which does not as a rule have the limited intent of primarily promoting the interests of the present individual patient. The concern often expressed for this category of medical activity is that the subject may be treated too much as a "guinea pig." The principle of utility con-

³⁰New York Times "Whether to Make Perfect Human Beings" (July 22, 1982), p. A22.

strued as an aspect of beneficence and as applied to the interests of the subject-patient appears to promote the patient's good. Eve Nichols is unwittingly relying on this rule in her explanation as to why some recessive diseases following the patterns of Medelian inheritance are preferred over dominant patterns.

Gene therapy for dominant disorders probably will require modification or inactivation of the abnormal gene responsible for the disease, a much more complex task than gene insertion. Also, risk/benefit assessments are more likely to be favorable for gene therapy if the target disease is lethal early in life; some autosomal dominant disorders do not become evident until adolescence or later.³¹

Exceptions to this rule seem to occur only in the context of "last hope" experimentation because harm to the patient is weighed against either a certain death or a life plagued by a devastating disease. Body cell gene therapy might be judged acceptable even if there was little hope of success. Because this is not an uncommon circumstance for research, some bioethicists have questioned this rationale by suggesting that there might be a more ultimate motive to advance medical knowledge at work serving to justify interventions. Beecher, for instance, warns that "the term hopelessly incurable seems to be used to justify dangerous experimentation."³² In fairness to consequentialist bioethicists, however, I am not convinced that there is necessarily an ulterior motive in last hope situations. Medical knowledge can only be advanced if some reasonable expectation of success exists; nothing of

³¹Nichols, Human Gene Therapy, pp. 23-24.

³²Henry K. Beecher, Research and the Individual (Boston: Little, Brown, 1970), p. 85.

scientific value can be learned from experiments where such an expectation is absent.

Another implication of applying the principle of utility to biomedical research has escaped the notice of many bioethicists working on the issues of gene therapy: natural processes that are not functioning at their optimally efficient capacity are intolerable. This rule is vividly illustrated by Leroy Walters' hypothetical scenario. He asks us to imagine "that in the year 2050 the unlikely has become feasible and that well characterized alterations at the sites of 15 known genes have been demonstrated to double efficiency of human long-term memory." Then he invites us to decide whether this improvement of long-term memory would be morally justifiable. He is favorably inclined. But the moral of his hypothetical makes the point in a predictably consequentialist fashion: "Many human characteristics can be described as deficits in the light of goals not yet attained."³³ Hence, efficiency can be used to justify numerous types of manipulations, once it is turned on natural processes. As it happens, the class of interventions now envisioned are narrowly circumscribed by the severity of the disease rather than by its incidence in the population. These disease candidates do not constitute singly or collectively a public health incidence. One must also bear in mind that this classification is not based on a conceptual distinction, but rests on the "sum" of risk/benefit calculation at a time when the biotechnology is undeveloped. As the technique becomes safer through perfection (becoming itself a benefit), as attention moves to less

³³U.S., Congress, House, Committee on Science and Technology, Hearing before the Subcommittee on Investigations and Oversight, 96th Cong., 1st sess., November 1982, p. 389.

serious and equally prevalent diseases, as well as other contingencies, new evaluations will be demanded that will reasonably shift the balance toward wider applications.

Moreover, the restricted scope of this justification, is not well supported by the whole utilitarian scheme that counts bodily pleasures (or pains) as inferior to superior mental pleasures (or pains), as Mill pointed out long ago. He said that "there is no known Epicurean theory of life which does not assign to the pleasures of the intellect, of the feelings and the imagination, and of the moral sentiments, a much higher value as pleasures than to those of mere sensations."³⁴ The point is that the present focus of gene therapy as justified by utilitarian tenets is inferior concerns as compared to how utilitarians might argue if the biotechnology were more developed, and could be implemented to correct inefficient biological functions adversely affecting the performance of, or hindering the enjoyment of the superior capacities proper to human beings. So long as the medical geneticist, working under the narrowly restricted aim of relieving pain and misery, can elude ethical censure, and withstand the utilitarian pressures to adhere to other fundamental values of that system, this rule theoretical tendency might continue to be ignored; even so, it remains part of the logical apparatus of the scheme. Yet it is quite clear that not all consequentialists are content with this conservative

³⁴Sam Gorovitz, ed., Utilitarianism and Critical Essays, (Indiana: Bobs Merrill, 1971), pp. 18-19.

stance.³⁵ This largely unconscience theoretical commitment would affect decisions to pursue or continue a line of research.

The tension is clearest with regard to the question of enhancing a normal trait by genetic engineering. W. French Anderson does not take this class of activities to be an instance of therapy for a genetic disorder. He discusses this activity in reference to "the insertion of an additional normal gene (or a gene modified in a specific way) to produce a change in some characteristic that the individual wants."³⁶ One might think of cosmetic medicine. The examples of normal genes to which he is referring involve physiological traits, rather than personality or character traits for instance, the insertion of a gene coding for additional growth hormone. While Anderson thinks preventive medicine is an ethically acceptable justification for enhancing a patient's genotype, he would resist all other applications on the consequentialist grounds that "improving or selectively altering a characteristic might endanger the overall metabolic balance of the individual cells as well as those of the entire body."³⁷ This is, of course, an argument from safety or non-maleficence. The idea is to minimize the amount of pain and suffering an individual might experience; meddling with "normal" individuals would very likely be counterproductive. In taking this near-absolutist stance, it is interesting to note his substantial departure from con-

³⁵Jonathan Glover arguing from a consequentialist point of view, thinks that conservative arguments against changing human nature are morally unwarranted. In What Sort of People Should There Be? (New York: Penguin Books, 1984), pp. 130-136.

³⁶Anderson, "Human Gene Therapy," p. 287.

³⁷Ibid.

sequentialist patterns of reasoning that he and others find compelling in other contexts. With regard to germ-line applications, utilitarian bioethicists have been inclined to see these sorts of concerns as indications of increased caution and prudence rather than prohibitions. The question is whether Anderson could be criticized by his utilitarian colleagues for being inconsistent. One retort might be for him to point out that this is not a situation that aims at relief from suffering by correcting a severe genetic defect. But can he sustain his argument without ultimately appealing to some view of human nature which is not merely repudiated by his critics but inconsistent with his own empiricist metaphysic? His response rests on the assumption that painful suffering is the only or most significant type of human need that merits genetic intervention. And that in turn presumes an even more fundamental assumption about human nature which might be repudiated by other utilitarians. By comparison, Joseph Fletcher who places paramount importance on rational capacity thinks that higher human traits like willing, choosing, controlling are among those that most distinguish Homo sapiens.³⁸ This understanding would radically expand the justification of gene therapy.

The other line of defense, and what I think is really going on, is to reject enhancement genetic engineering, because given his narrowly circumscribed goals and technical definitions of the central concepts defining those goals, enhancements have only marginal utility. Even if the benefits might come to outweigh the risks with improved technology,

³⁸Joseph Fletcher, Humanhood: Essays In Biomedical Ethics (Buffalo: Prometheus Books, 1979), p. 88.

the advantage would not be significant enough to use research dollars for development, or for deployment of biotechnology if available. Following this rationale the rule of efficiency remains the principle governing biological process, albeit, with assumptions harbored by Anderson's consequentialist colleagues. By contrast, the layperson does not have an economy of the body requiring all natural processes to run efficiency, and for that reason he resists the application of utility to human nature. The question that preoccupies his mind, is whether there are any reasons which are independent of the consequences that follow. man's right to control all natural processes.

Second, the President's Commission has recognized that the whole question of assessing consequences in terms of risks and benefits is value-laden.³⁹ However, what is sometimes left unnoticed is that some of the criteria for defining risks and benefits are in many cases associated with the theoretical commitments of the normative theory. This situation is far more interesting than the mere statement that what counts as a risk or benefit owes its existence to personal projects.⁴⁰ With regard to consequentialism, the identification of risks and benefits is in various ways shaped by the principle of efficiency. Consider for a moment the consequence that gene therapy will change our current notions of parental responsibility. To some utilitarians that might be a benefit. Given it is generally recognized that it is to the advantage

³⁹Splicing Life, p. 51.

⁴⁰James Childress, along with Charles Fried, seems to treat the value-laden character of risks and benefits in this way. In "Risk" in the Encyclopedia of Bioethics vol. 4 (New York: The Free Press, 1978), p. 1517.

of a society to have as few disabled individuals as possible, the principle of utility requires that a family planning policy which allows even slightly more than the fewest number of defective children is socially intolerable. Thus, zygote genetic engineering will be clearly preferred as a public policy in that society. And while it is obviously true that the technology will not be ready in the foreseeable future, the demand for research dollars to develop the technology is an equally pressing question. This is not to say that utilitarian policies will necessarily be coercive as is suggested by the President's Commission.⁴¹ The optimistic type of regulation might very well include a combination of tax incentives and public education. The motive behind the intervention into family life is the idea that making natural reproduction and procreation more efficient is the most desirable state of affairs from the perspectives of both patient and society. What has escaped the attention of the utilitarian bioethicist is that common-sense attitudes toward human reproductive activity do assume not merely that parents are willing to accept the child to which a mother gives birth, but that they accept the child as a gift.⁴² The attempt to make this process more "efficient" changes the entire orientation of parenting. But to someone

⁴¹"Yet society has traditionally been reluctant to interfere with reproductive choice, at least in the case of competent adults. . . . So long as the only alternatives are termination of pregnancy or avoidance of conception, any attempt to enforce a public policy designed to prevent genetic defects constitutes a severe infringement on freedom of reproductive choice. If genetic engineering and related reproductive technologies enable a marked reduction of genetic defects and the burden they impose on their victims and on societal resources, however, mandatory genetic treatments may be advocated." Splicing Life, p. 66.

⁴²The President's Commission is completely oblivious to this common-sense attitude. Splicing Life, p. 64.

who has theoretical commitments to balancing the greatest possible benefit over harm, this will indeed be thought a benefit, granting that genetic engineering can be done safely. Accordingly, Engelhardt forcefully asserts that "those engaging in genetic engineering should not employ their techniques unless it is likely that they will produce offspring with fewer defects than those produced by the uncontrolled endeavors of the usual cottage industry of child production."⁴³ Moreover, the argument can be extended to claim that any natural process which is not governed by the principle of efficiency will at least be given the presumption of being "defective" if not treated as defective, and thereby a potential harm. The point, then, is that one of the criteria for being called a detriment has been defined by the normative system and should be made known from the outset.

The notion of "negative responsibility" is another way in which theoretical influences shape the evaluation of consequences. Here the issue has more to do with assigning importance to risks and benefits than with their identification--though that, too, does happen. Because consequentialism is concerned primarily with the establishment of certain states of affairs, it attaches equal significance to the causal connections in which outcomes consist, as well as possible actions that could contribute to the production of that state of affairs. This means that to do nothing is just as much an ethical decision to be justified as to introduce new methods of therapy. Both types of doings will count equally if the activity is causally necessary to bring about the desired result. This conception of negative responsibility, maintains equal

⁴³"Persons and Humans," p. 286.

accountability for what one fails to do just as if one had consciously intended to frustrate the production of a given outcome. With regard to changes in parental responsibility regarding the genetic health of a child, the conceptual shift that will occur holds the parents equally accountable for not acting to ameliorate a genetic deficiency as they would have been if they had positively inflicted injury on the child. The issue frequently surfaces when assessing the importance of developing genetic engineering. The balancing of risks against benefits reflects that equal weight has been given to the consequences that merely happen in the absence of the technology as has been given to those that are caused by its abuse as an existing technology.

This notion of responsibility, however, says something that previous generations of Western thinkers would deny. As our ordinary discourse attests, a decision to do nothing is not to be justified on the same grounds as a decision to act. In common-sense morals, a decision to do nothing is not merely a disguised decision to act by other means. The normative distinction between action and non-action rests on a presumption in favor of leaving alone, but it distinguishes the weight given to the two categories all the same. In medical ethics, this presumption has had a central role. The first duty of physicians, primum non nocere, was not to act. In contemporary bioethics that burden of proof appears to be shifting from those who advocate intervention to those who would question certain genetic applications.⁴⁴

⁴⁴The shift can be seen in the findings of the President's Commission. Splicing Life, p. 3.

Another feature of the more recent refinements in RBA theory that is praised as an improvement over earlier approaches is its pluralistic structure.⁴⁵ As we have seen, it takes into account risks and benefits falling under categories of economic, psychological, legal, physical and so forth. Although the categories set forth by the NCPHSR give no indication that their list is exclusive, or that each category represents intrinsic goods to be sought or avoided, I take it that they are intended to accommodate all intrinsic values, both social and individual. By comparison, traditional listings by pluralistic utilitarians include knowledge, beauty, avoidance of pain and presence of pleasure, among others as possessing intrinsic value. But there are several reasons for qualifying enthusiasm toward the revised theory. One reason follows from the continued reliance on the principle of utility. As long as the maximizing function governs the system, natural processes will be judged exclusively on the basis of their efficiency to produce specified ends. Consequentialists may not, of course, always choose the most beneficial outcome, and thereby exclude other ethical considerations, but they will judge states of affairs on the basis of being optimally beneficial. So the previous point concerning criteria of identifying risks and benefits is still relevant even after revision of RBA theory. The second reason for tempering one's enthusiasm toward the more recent statements of RBA is that in practice the selection of disease candidates for body cell therapy and the justification of early trials in human subjects ultimately comes down to the question concern-

⁴⁵LeRoy Walters, "Technology Assessment," in the Encyclopedia of Biomedical Ethics, ed., Warren T. Reich, vol. 4 (New York: The Free Press, 1978), p. 1653.

ing severity or magnitude of pain and suffering. Consequently, in practice the revision looks very similar to its Benthamite predecessor. Contemporary RBA as it pertains to biotechnology assessment appears to resemble G. E. Moore's non-hedonistic pluralistic utilitarianism more than Jeremy Bentham's single-minded hedonistic system. In a society rapidly becoming pluralistic it may be more attractive because the ethicist need not deal with the sensitive question of what intrinsic value should be maximized. The appearance of improvement, however, may be only theoretical. So, at the level of therapeutic consideration, factors included in the other listings seem less significant, though they might have some role in the overall justification. Finally, it is unclear as to what is being praised in these revisions. Is it the pluralistic feature that was missing from the older Benthamite constructions? Or, is it the non-hedonic criteria determinative of that normative system? One must bear in mind that pluralistic systems can come in both hedonistic⁴⁶ and non-hedonistic forms. Perhaps it is the qualitative focus over the previous quantitative emphasis. Maybe it is some combination of all three?

Fourth, RBA is not explicitly a quantifiable methodology. Commenting on this rational procedure, the NCPHSR stated that the procedure functioned as an "ideal" for experimental research, and that terms like "sum," "in a favorable ratio" or "balancing" should be read metaphorically so that usage not be misconstrued as requiring strict

⁴⁶John S. Mill's utilitarianism can be interpreted as an example of pluralistic hedonism according to Rem B. Edwards, Pleasures and Pains; A Theory of Qualitative Hedonism (Ithaca: Cornell University Press, 1979).

adherence to quantitative techniques. This qualification not only shows RBA to be value-laden, a point that many bioethicists, if not researchers acknowledge, but raises the question as to the extent to which its authority implicitly relies on an anti-consequentialist moral intuition.

Perhaps an illustration of this point will show how common-sense intuitive judgments have a fundamental role in biomedical decisions. The question at issue concerns whether to proceed with initial clinical trials of somatic cell therapy in human subjects despite the absence of scientific evidence that such intervention will yield any benefit for the patient.⁴⁷ On April 24, 1987, the team of William French Anderson, a pioneering gene therapist working on an immune deficiency known as adenosine deaminase (ADA), submitted a "preclinical data document" to the Human Gene Therapy Subcommittee of the Recombinant DNA Advisory Committee (RAC) at the National Institutes of Health.⁴⁸ The document was not a clinical proposal requesting approval, but was submitted informally for "information purposes and part of an education process for the Subcommittee and submitters."⁴⁹ The debate was set between proponents of initial clinical trials represented by Anderson

⁴⁷For a summary of the debate consult Barry Siegel, "Desire to Be First Colors Gene Studies" Los Angeles Times (December 14, 1987), p. 1ff.

⁴⁸The "Preclinical Data Document" is an unpublished report submitted by W. French Anderson, M.D. Laboratory of Molecular Hematology, NHLBI, NIH; R. Michael Blaese, M.D., Metabolism Branch, NCI, NIH; Arthur W. Nienhuis, M.D., Clinical Hematology Branch, NHLBI, NIH; and Richard J. O'Reilly, M.D., Memorial Sloan Kettering Cancer Center. A copy is held on reserve at the National Reference Center for Bioethics Literature funded by the National Library of Medicine and operated by the Kennedy Institute of Ethics at Georgetown University.

⁴⁹Ibid., p. 4.

and opponents represented by Richard Mulligan, a microbiologist at the Whitehead Institute for Biomedical Research. Both parties initially supported their views by appeals to RBA. Mulligan's reluctance to proceed appears to have turned on two considerations: (i) that the absence of solid scientific evidence for reasonable success would be detrimental to scientific advancement of human genetics because currently designed experiments do not offer new insights to benefit mankind, and (ii) that the failure of premature experimental interventions would threaten the ethical integrity of the scientists by providing necessary evidence to popular critics of biotechnology outside the scientific community. Consequently, Mulligan was content to continue work on animal studies. Anderson, however, interpreted Mulligan's attitude as mere acquiescence and sought to shift the delicate balance of risk over benefit by couching the issue in the more restricted terms of "last hope" effort. In shifting the circumstances the importance is placed on whatever benefit might accrue to the patient who almost certainly faces a devastating disease and death. To support his case for initial trials Anderson presented his theory of selective advantage. On this point, he reasons that upon being inserted a few normal functioning cells with the ADA gene will eventually proliferate while other bone marrow cells lacking the ADA gene are attacked by the body's poisons and die out. Cells with normal functioning genes would then spread throughout the body. Mulligan, however, treated this as pure conjecture since the theory required that the ADA be effectively placed into self-renewing stem cells that replenish the body. But there is no scientific evidence that such experiments could be carried out in humans since the immune systems

of monkeys, on which Anderson conducted his experiments, are quite different. Absent any definitive test in animals, there is only the "critical decision" to proceed with humans. From the perspective of RBA there is no way to decide the question. Anderson cannot appeal to science in the evaluation of hopeful benefit to the patient as a result of intervention, nor can Mulligan argue his case. Both defenses appear to require information from intervention into human subjects. Anderson is ready to make that critical decision while Mulligan is not.

One can, I think, discern in the positions of these two scientists a distinction between the ethic of beneficence and the ethic of knowledge. In Anderson's scheme, there is a certain overriding commitment to do good by relieving pain and suffering. That consideration, however, receives much less emphasis in Mulligan's scheme. Indeed it might be argued that he attaches more significance to an ethic of knowledge which seeks the good of mankind. The difference in the scheme is subtle but momentous. Both these ethical orientations accord with legitimate pursuit to derive the total "sum" of benefit over risk. The divergence in moral outlooks may be conditioned vocationally by the fact that Anderson is a physician whereas Mulligan is a basic researcher. But that does not seem any more relevant than arguing that Mulligan has the long term interest of the genetic research project in mind, while Anderson is overly ambitious, as the Los Angeles Times columnist implied.

What is important to notice is that the type of consideration on which the "critical decision" would rest involves knowledge that is unavailable. But that does not deter Anderson from judging intervention

to be the ethical course of action. In final analysis, RBA provides no guidance to the decision, even on its most liberal reading. It is the ordinary intuition of relieving pain that impresses Anderson. Mulligan, in a predictably scientific fashion, is unable to countenance a reliance on ordinary moral sense. For him, only scientific reasoning is trustworthy. Any other basis for deciding the case is unreliable. I am suggesting that other cases similar to this could be analyzed to show a reliance on the authority of common-sense intuitions rather than the more formal procedure of RBA.⁵⁰ This raises serious questions about the role of RBA in bioethical deliberations.

Finally, RBA evaluations are the "sum" of the total balance of risks and benefits considered from the perspective of both the individual and society. One social component is reflected in the importance of the medical knowledge to be gained from carrying out the experiment. But there are other "indirect" social consequences that can be taken into account. Unfortunately, the crucial question as to when scientific advancement is important enough to tip the balance against individual judgments is often left unaddressed. If Mulligan and Anderson were to address the issue, they would no doubt agree that initial trials of gene therapy would provide important information, but then take different sides on attaching significance to the knowledge that could be gained

⁵⁰One is intuitively sympathetic to cases where, all else being equal, good can be brought into the life of a young child. It does not really take a sophisticated risk/benefit analysis to see that a nine-year old girl who has been denied her overriding desire to have a puppy because her defective immune system cannot protect her from fatally infectious diseases should not be denied experimental treatment proven to be safe even though the effectiveness is unknown.. Business Week (November 1985), p. 76.

from present interventions. Again it seems these scientists are working at an intuitive level of reflection. One is tempted to say that if the empirical conditions of efficiency were satisfied--conditions pertaining to safety, reliability, prognosis, and effectiveness--the balance would begin to favor science. This is a natural result because when the consequentialist can make it work he or she is willing to give greater emphasis on efficiency as though it were a unique moral category. With regard to the broader social ramifications flowing from the application of gene therapy, the general rule has been not to let indirect consequences prevent the development and application of gene therapy.⁵¹ In the words of Clifford Grobstein and Michael Flower, the rationale has been to turn to the canons of prudence and adopt the principle of "proceed with caution." That principle applies equally to remote future social consequences. In handling questions of political or social misuses the tendency is to regulate the present and discount the future. In order to be workable in practice consequentialism generally relies on what J. C. Smart calls the "ripples on the pond" postulate on the basis of which it is held that remote future consequences approximate rapidly to zero.⁵² Accordingly, as a practical matter, it is possible to exclude long-term consequences. Given that the future is so dim, partly owing to the fact that potential for technological advance is itself

⁵¹U.S., Department of Health and Human Services, 45 Code of Federal Regulations 46.111 (a) (2).

⁵²J.J.C. Smart and Bernard Williams, Utilitarianism For and Against (New York: Cambridge University Press, 1973), p. 62-67. One suspects that something like this postulate lies behind the requirement by HHS regulations to exclude indirect and future consequences of applying knowledge gained in the research from IRB evaluations of protocols. 45 CFR Subtitle A 46.111 (a) (2).

unknown, some bioethicists have argued that future consequences unrelated to the direct considerations of the individual patient will either be negligible or will be canceled out by equally likely scenarios.

General criticisms. Having highlighted some of the structural features of RBA along with their logical implications pertinent to the line of objection I am raising, it will be helpful to consider some of the general problems inherent in RBA. Many of these have been addressed in the literature, but I hope to focus on the manner in which the normative theory neglects ordinary moral intuitions, or how the system creates a presumption in favor of genetic control over an ever increasing number of natural processes.

(1) RBA is value-laden. I have already drawn attention to certain theory-laden aspects of RBA that serve as criteria for identifying risks and benefits. "Theory-laden" and "value-laden" criticisms present slightly different problems for RBA. "Theory-laden" refers to the internal theoretical structures that influence particular judgments, whereas "value-laden" signifies extra-theoretical principles necessary to reach a desirable outcome, or to make the theory practical (e.g., Smart's ripples on the pond postulate). Generally the truth of these principles is assumed, and frequently when they are made explicit one finds that they involve a complicated set of more fundamental ordinary beliefs. Because bioethicists have spent much effort on isolating and criticizing these I shall not rehearse them in detail here. The basic question that this concession raises pertains to the reliability and/or scope of authority in judging the appropriateness or inappropriateness of a genetic intervention to create certain types of effects. I shall

come back to that latter. It will suffice to present the crucial difficulties that have been systematically raised by MacIntyre. They are as follows:

- (a) The range of alternative courses of action subjected to the utilitarian test are either restricted or unrestricted (e.g., limits place on admissible alternative policies to consider).
- (b) The requirement to "sum" or "weigh" risks against benefits suggests that comparisons can be made between "incommensurable," risks and benefits, and alternative outcomes.
- (c) The assessment of harms and benefits requires alternative methods of ranking and different principles for handling conflicting values (e.g., minimizing pain or suffering contrasted with promoting pleasure).
- (d) The criteria for judging a state of affairs to be a consequence of a given action (e.g., intended or unintended results).
- (e) A decision must be made about the time-scale which is to be used in assessing consequences (e.g., long term weighed against short term effects).

On each of these points, MacIntyre argues that values and other theoretical beliefs external to the normative system are necessary in order to make utilitarianism practical, and even then it may only be amenable to certain kinds of problems under certain restricted conditions:

Utilitarianism thus requires a background of beliefs and of evaluative commitments, a fact that has usually gone unnoticed by utilitarians themselves. They are able to apply the test of utility only because they have already implicitly decided that the world ought to be viewed in one way rather than another, that experience ought to be structured and evaluated in one way rather than another. The world which they inhabit is one of discrete variables, of a reasonably high degree of predictability; it is one in which questions of value have become questions of fact and in which

the aim and the vindication of theory is its success in increasing our manipulative powers.⁵³

Before moving on to other important criticisms of RBA, I want to add a further difficulty with RBA as it is used in technology assessment that evidences the value-laden nature of its methodology. I shall refer to this as (f) the adjudication of equally efficient applications. It is recognized by consequentialists that two or more actions may produce equally good results so that there is no uniquely right policy.⁵⁴ Similarly two technologies or the development of alternative therapies might bring about equally satisfactory results, except that from the common-sense perspective one of the therapies or proposed research programs might be judged to be intrinsically unethical. One might imagine alternative birth control devices, or a hypothetical situation in which tissue from aborted fetuses and a drug regimen are equally effective and safe in bringing about a desirable outcome that is acceptable to all points of view. These are admittedly complicated to analyze, yet it appears that the consequentialist lacks the resources to make any judgments between them. How might they go about choosing the least morally offensive therapy? Could such considerations even enter into the deliberation? Would all ordinary beliefs that would lead to inefficiencies be ruled out or stigmatized as being what Fletcher calls, "know-nothingism."⁵⁵ The options will be either to find some principles

⁵³Alasdair MacIntyre, "Utilitarianism and Cost-Benefit Analysis: An Essay on the Relevance of Moral Philosophy to Bureaucratic Theory," in K. Sayre, ed, Values in the Electric Power Industry (Notre Dame: University of Notre Dame Press, 1977), pp. 221-224.

⁵⁴Utilitarianism For and Against, p. 45.

⁵⁵Joseph Fletcher, Humanhood, p. 89.

for resolving the controversy or to ignore it all together. In either case, the choice will reflect value commitments.

(2) Quantification of variables misrepresents the subtleties of intangible values like life. This response as it is put from the common-sense point of view attacks quantification from two sides. On the one hand, it claims that ordinary moral intuitions that are quantified get distorted in the translation process. On the other, those that are not accessible to quantification are unduly neglected from deliberations. Thus, the issue of quantification is a special case of the value-laden criticism. These objections can be mitigated by countering that RBA needs proper restriction in its applications. Furthermore, it can be argued that quantifying, say probable outcomes, is much less value-laden than making comparisons between alternative states of affairs. But the difference is one of degree rather than kind. As is often the case, there are questions associated with assigning numerical weights that simply lack sufficient empirical warrant. Ideally, of course, it would be helpful to run additional tests to gather the necessary data. That, unfortunately, is usually not practical given budgetary and time constraints. The situation seems very much like the one faced by Anderson and Mulligan. A tough-minded analyst, however, convinced of the reliability of RBA might well press ahead, attempting to extrapolate the unknown contingencies from other contingencies that are known. In the absence of relevant data, the issue that the analyst faces at this point is whether to be optimistic or pessimistic about the probability of injury. The resolution to this problem rests with placing more importance on avoidance of injury or the desire to promote

well-being. Pessimistic weightings will reflect the significance of avoiding injury while optimistic assessments might reflect a beneficent attitude of doing good accompanied by a belief in the ability of science to control circumstances; as a result, important knowledge is sure to be gained. The importance given to quantification is no doubt to set some kinds of controls on what can be admissible evidence for moral deliberation. But to point out the underlying attitudes that influence the process of assigning probabilities is not to say that moral deliberation has no rational basis. Rather it is to challenge the widely held view that sharp contrast exists between the quantified considerations of RBA and moral intuitions, that distinction being based on the objectivity of the former and subjectivity of the latter. But the distinction is false because quantification involves a degree of subjectivity and moral intuitions despite the non-cognitive aspect of their character might still admit of rational controls. Those restrictions, however, will be a function of the extent to which moral intuitions cohere with the larger system of belief.

Moreover, other problems concerning quantification related to assigning probabilities surface that are far more serious from the ethical point of view. As I argued earlier, RBA places enormous demands on available empirical data. Many questions associated with assessment, however, cannot be answered by empirical means. The problems here are not just limited by the absence of data, but transcend empirical means altogether. Stephen Stich in his discussion of the controversy sur-

rounding the recombinant DNA debate of the mid-1970's⁵⁶ draws attention to two sorts of problems associated with assigning probabilities to outcomes that pose insuperable conceptual problems for RBA. The proposed solutions offered for these problems were critical in shaping opposing scientific attitudes toward the morality of recombinant DNA research; and this was true even though biologists agreed that many of the considerations were accessible to empirical estimates. Stich, himself, is a sympathetic critic of RBA. One objection he draws attention to concerns the scientists' limited knowledge about nature and the consequence that intervention could reasonably result in adverse practical effects.

But there are other possible outcomes whose probabilities cannot be determined by experiment. It is important, for example, to know what the probability is that recombinant DNA research will lead to a method for developing nitrogen-fixing strains of corn and wheat. And it is important to know how likely it is that recombinant DNA research will lead to techniques for effectively treating or preventing various types of cancer. Yet no experiment we can perform nor any data we can gather will enable us to empirically estimate these probabilities.⁵⁷

There is another even more problematic type of contingency relevant to assessing probabilities that eludes empirical judgment. This relates to the impossibility of imagining a significant number of possible outcomes produced by intervention.

⁵⁶This debate culminated with the famous Asilomar moratorium, for which the scientific community has been credited with the initiative to regulate itself: "The Conference was a landmark because it provided for all scientists a working illustration of how specialists can examine and when necessary, limit their research for the public good long before the issues are dragged into the obscuring atmosphere of the public arena." U.S. News and World Report 78 (April 7, 1975), pp. 66.

⁵⁷Steven P. Stich, "The Recombinant DNA Debate: Some Philosophical Considerations" in The Recombinant DNA Debate, David A. Jackson and Stephen P. Stich, eds. (Englewood Cliffs: Prentice-Hall, 1979), p. 190.

A possibility that weighs heavily on the minds of many is that recombinant DNA research may lead to negative consequences for human health or for the environment that have not yet even been thought of. The history of technology during the last half century surely demonstrates that this is not a quixotic concern. Yet here again there would appear to be no data we can gather that would help much in estimating the probability of such potential outcomes.⁵⁸

These theoretical difficulties go to the core of RBA as a scientific methodology quite apart from its ethical worth as a decision making process for judging the appropriateness of a given technique. They bring out the inability to enumerate all, or even a significant proportion, of the possible causal contingencies. More importantly, our limited knowledge creates reasonable doubt that our vast amount of ignorance about nature may hide significantly large negative consequences. It is impossible to quantify the unknown, yet it is surely not unreasonable to inquire about the potential for creating exotic new genetic disorders or increased susceptibility to early cancers as a result of genetic manipulations of body cells. Accordingly, each of these considerations is necessary for assessing the significance of the total set of consequences resulting from a given course of action. Both of these interrelated problems confront the somatic cell researcher where the matter to be demonstrated is an effective clinical cure for single-gene recessive diseases. This concern is of no small importance because if gene expression produces insufficient levels of enzyme the necessary protein will not be produced; and, if it results in overproduction of the enzyme, it will at best be physiologically disruptive,

⁵⁸Ibid., pp. 190-91.

and at worst carcinogenic, eventuating in the patient's death.⁵⁹ For these reasons, then, it is difficult to resist Stich's conclusion: "it is doubtful whether there is any empirical sense to be made of objective probability assignments to contingencies such as those we are considering."

The researcher might respond to this line of reasoning by appealing to a different notion of probability. As Stich points out, a Bayesian committed to a subjective notion of probability involving degrees of belief rather than the objective conception might suggest that there are enough interconnected contingencies known to calculate the probabilities of the unknown so that the allegations raised are insignificant. This solution, however, is problematic. Bayes' solution to assessing probability subjectively ultimately resides with the authority of expert opinion. On this point, Stich observes another pressing difficulty: "the subjective probabilities assigned to potential dangers and benefits of recombinant DNA research would appear to vary considerably even among reasonably well-informed members of the scientific community."⁶⁰ But even if there were a consensus, it would be built on beliefs and knowledge that only the trained expert mind could appreciably understand, and there is a strong tendency (supported by even a cursory reading of the literature) that experts will treat the objections raised by public opinion as uninformed mass hysteria. Only insofar as layperson's intuitive appeal represents the actual results of

⁵⁹Stuart Newman, "Does Human Genetic Engineering Have a Scientific Basis?" Philosophy and Public Policy 8 (1986), p. 8.

⁶⁰Steven P. Stich, The Recombinant DNA Debate, p. 191.

risk/benefit deliberations, or can be reinterpreted in such a fashion, will they be given full consideration. Otherwise those beliefs will be stigmatized as religious, or in some other way "rationally unsupportable."

It appears, then, that both objective and subjective strategies for probability assignments encounter serious problems. That having been said, it remains open for Stich to attach a different significance to these problems with respect to the credence that should be placed in the theory of RBA. As it happens, he treats these problems as technicalities, and opts for defending a modified Bayesian approach, combining available objective probabilities with subjective probability assessments of informed scientists for the unknown contingencies in order to construct a "worst-case" scenario. Then, based on that judgment he maintains that this offers some rational basis for estimating total probabilities of contingent outcomes. It would be futile to suggest that the criticisms up to this point are sufficient to discredit reliance on RBA; this is even more so if I am correct in my claim that the theoretical concepts and commitments are highly ramified and branch out far beyond the normative theory itself, thus, attaching themselves to much of the entire scheme. The proponent of RBA, Stich being a good example, will merely see these as technicalities to be overcome through further refinement of the methodology.

(3) The fundamental significance attached to efficiency as a norm for therapeutic means provides the rationale for controlling natural processes as a newly emerging aim of biomedical research. This objection reflects the conflict between the ordinary respect for human

life and the desire to make natural processes, like social processes, more efficient. It is here that there is the sharpest contrast between utilitarian and common-sense morality, for efficiency is basically indifferent to the question of appropriateness. Indeed some might charge that a common-sense approach to medical ethics is just an excuse for inefficiency.⁶¹ Nevertheless, it is reasonable to ask of any treatment that is safe and effective whether it is appropriate for human applications. The intelligibility of asking this question is really an implication of a point made earlier. Since the ordinary definition of an ethical action is not defined in terms of outcomes, it is always open for the non-consequentialist to choose less than the "best" option. The alternative will usually be selected when there are other higher values in question, such as human dignity. Having said that, however, common-sense bioethicists will often select alternatives that coincide with consequentialist choices, especially if the ends are narrowly circumscribed so as to be concerned with human nature. There is no reason to aggravate the difference between consequentialism and non-consequentialism where no differences exist.

Efficiency refers to the maximizing notion of consequentialism. Within the context of gene therapy, I will construe it broadly to include other provisional criteria of effectiveness, safety, reliability, presence or absence of alternative treatments, severity of

⁶¹Gavin Mooney, "Medical Ethics: An Excuse for Inefficiency?" Journal of Medical Ethics 10 (1984): 183-185.

symptoms, and prognosis.⁶² Each of these empirical factors has a function in determining overall efficiency. No one will deny the benign assertion that efficiency has a central function in the normative scheme of RBA. Proponents of RBA, of course, assert that the methodology does not determine the goal of a policy, but is designed to regulate the means in the best possible manner. As with any methodology that likens itself to science, this method, too, only establishes the most effective means to an end. It will further be noted by proponents, as well as sympathetic critics alike, that it should not determine the pursuits of a policy; to do so would be to apply RBA beyond its scope of authority.

However, given the normative structure of RBA, there are several ways in which efficiency is extended beyond its proper range of authority. First, because the criteria of efficiency are empirical they can be deceptive to the researcher. Within the boundaries imposed by regulatory constraints and therapeutic goals, both which have moral backing in the principles of non-maleficence and beneficence, the researcher's own tasks will characteristically appear to him as merely technical. He has only to calculate the most efficient means for utilizing available resources. The weighing of risks against benefits is not just a facet of the research, it is taken to be the business of research. The more profoundly philosophical questions related to appropriateness get squeezed out. They are left to someone else to handle. Evidence of the process has already been adduced by imitating

⁶²These are the criteria used to determine when it is ethical to begin gene therapy. Office of Technology Assessment, Human Gene Therapy: Background Paper, pp. 22-25.

the standard pattern of presenting the two stages of RBA, as though they were sharply distinguishable.

Second, the authority of efficiency, despite protests to the contrary, has been extended in principle. The appropriateness of gene therapy is intrinsically linked to questions of human nature and needs. This implies that appropriateness is a necessary though not sufficient condition to determine whether genetic manipulation of human subjects can be conducted ethically. It is not enough to require that something can be done safely and effectively. An effectively safe and reliable drug to produce contentment could well be harmlessly administered, but we should not think it beneficial for an individual to choose a life of drugs in contrast to a life of developing one's own talents. Consequentialists are more easily satisfied on the morality of genetic interventions because their outcome-oriented approach is principally interested only in those kinds of causal links that bring about the desirable state of affairs. So long as certain interactions contribute effectively to the specified state of affairs they are instrumentally valuable to the scientific consequentialist.

Third, there is an emerging new aim of medicine, control over human nature. It can be argued that the principles of non-maleficence and beneficence are not only the morals that guide the means of an application but the end of biomedical research. Beneficence is typically understood as promoting the patient's good. But the mood of contemporary bioethics is generally opposed to any attempt to give a substantive answer to the question "What is the patient's good?" apart from the answer "Whatever the patient wants." Indeed the physician who

attempts to justify acts taken on behalf of the patient's best interest under the auspices of beneficence will be heavily censured for being paternalistic. In this highly individualistic and autonomous setting, the principal standard of care by the physician and the incentive for the researcher is to give efficiently whatever the patient wants. Hence the demand for greater control.

Finally, some analysts and bioethicists believe that to deviate from the value of efficiency is to invite waste of scarce resources. Thus, while it is advisable to sacrifice some short term efficiency in order to retain a widely held value, public policy will resist a departure from the best means to an end attributable to an observance of ordinary values. It would seem that the dignity and sanctity of human life would be among a protected class of values. But only because these values are widely revered among the all cultural traditions of the West. Their authority, however, has been called into question by utilitarian demands. Herman Leonard and Richard Zeckhauser warn that "social values that frequently stand in the way of important efficiency gains have a way of breaking down and being replaced over time, so that in the long run society manages to accommodate itself to some form of cost-benefit criterion."⁶³

While their warning reflects the consequentialist push for efficiency, I am not convinced that this transformation process can happen to all common-sense morals. Surely it is not true of the respect

⁶³Herman B. Leonard and Richard J. Zeckhauser, "Cost-Benefit Analysis Applied to Risks: Its Philosophy and Legitimacy," unpublished paper for the Center for Philosophy and Public Policy, University of Maryland, June 1983.

for human life. Leonard and Zeckhauser's prediction seems to assume that the social transformation is the result of the ordinary person giving up the common-sense rules because they cease to be maximally useful. But the manner in which I have been characterizing common-sense rules is precisely that they are not by consequentialist ideals maximally useful. So it is not clear how they can "break down and be replaced over time." At best, the ordinary conscience might lose its hold because these values no longer seem a useful guide to interpreting moral life. But that is quite different from ceasing to obey them because they are no longer maximally useful. It is precisely that feature which the traditional conscience finds unnecessary to satisfy, although it may have ultimate importance for the scientific humanist.

(4) Efficiency as a norm of therapeutic activity is basically indifferent to the question of appropriate or inappropriate means that can be undertaken to intervene in certain types of natural processes. One implication of efficiency determinations involving balancing the badness of the proposed means with the expected goodness of the ends is that there is no comprehensible distinction between means and ends. One qualification is that harmful actions are sometimes weighted more heavily insofar as they involve certain forms of pain. Beyond that qualification, however, very little else receives due consideration. By contrast, questions of appropriateness imply that the characteristics of actions (i.e., intentions or ends, motives, consequences, side-effects, and further consequences) are morally distinguishable. This does not suggest that there must be a sharp distinction between means and ends, only that from the perspective of common-sense morality actions are

spoken of in different ways in order to indicate their morally significant properties relevant to the circumstances. These subtleties affect the judgment. To consequentialism only consequences matter, and those actions that contribute to the outcome, which in the present context is the reduction of pain and suffering in the world, are the only actions that have value. It should not go unnoticed that the empirical nature of consequences makes the consequentialist mode of ethical deliberation attractive to the scientific mind intent on verifying or falsifying states of affairs.

Efficiency as a norm of therapeutic means distorts the types of activities undertaken. The expediency of leveling the action's characteristics, or excluding some altogether, in order to pick out only those that are conducive to the desired outcome is a central mark of efficiency that clashes with what is seen as significant from the common-sense point of view. The notion of appropriateness if it reemerges in the consequentialism at all, will be indistinguishable from the notion of whatever is dictated by a fair balance of risks and benefits. But that is quite different. The issue that we will need to explore latter is whether consequentialism can set limits on ends or intentions, which in the context of judging the ethics of genetic applications will be linked to a conception of human nature and purposes. To the extent that consequentialism treats the intent of an action as unimportant, it is fair to claim that it cannot adequately judge the appropriateness of specific therapeutic applications.

A Consequentialist Rejoinder. Much of what I have said so far will not be denied by some of the most ardent proponents of RBA. Nevertheless they will not be persuaded by these criticisms. They see no alternative to using RBA in assessing the ethical applications of genetic research. For them, the central issue is to restrict the scope of authority for RBA, and to apply it to those areas in which it is effective. It is better to work from an inadequate system than to depend on the unquantifiable intuitions. The point about limited applications is misleading; for as we have seen, the matter of appropriateness of biomedical technologies is one in which RBA is said to be at variance with common-sense moral values which stubbornly resist the logic of RBA. Is this a restricted zone? From the intense interest in applying RBA to gene therapy, it appears that such a thought will not be seriously entertained. The question is whether or not it can in principle address this type of issue. Furthermore, in applying RBA only to areas that will respond to its methods, one not only gives insight into some areas that cannot be given to all; but moreover it gives prestige to a small range of considerations, allowing them a more significant role in decisions than they merit, as well as neglecting factors that do not conform to those patterns of thought. It presumes that selective applications to different factors under consideration will not distort the conclusion; and that reliance on common-sense intuitions is necessarily illusory. These assumptions are often unwarranted.

With regard to the second point about limiting the scope of authority in reaching an answer, Childress articulates an evidentiary principle that is widely representative:

Even if the method does not provide conclusive answers about what ought to be done, it may indicate which options should be rejected because they are ineffective or because their cost, including their risks, outweigh the benefits.⁶⁴

The point seems to be that RBA is sufficiently discredited because of its unreliable ethical assumptions so that it can no longer serve to confirm or verify a unique option, but it can function as an exclusionary principle to "indicate which options should be rejected." I shall not discuss the question-begging content of using what is at issue (viz., applying the principle of utility) to exclude non-optimific options. I am rather interested in the logical status of the criterion of judgment. What, is the force of "indicate"? Does it merely mean creating a presumption against certain options, or does it suggest something stronger such as falsifying certain alternatives. The former option is not a conclusive stance, and can not adequately exclude an option resting on common-sense morality that is not maximally optimific. Therefore, it does not pose a serious threat to the ordinary man's reliance on the sanctity of human life as a condition for appropriateness of genetic applications. The latter view is much more serious in this regard since it seeks to be conclusive. However, this form of the exclusionary rule seems to rest on a false assumption. First, if the values underpinning RBA are unjustified or even unreliable for purposes of confirming an option why should they be any more reliable in conclusively falsifying an alternative? Just as in the natural sciences where it is now thought that the fallibility of observation prevents the falsification principle from excluding a theory, so in the very dif-

⁶⁴Childress, "Risk," p. 1520.

ferent matter of bioethical deliberations, quasi-empirical statements cannot falsify ordinary moral beliefs; for judgments based upon RBA have been found to be questionable. Moreover, even if this were a possibility it would still leave open one or more alternatives none of which would answer the question of appropriateness. Hence, the revised version of RBA still fails to provide any satisfactory answer to the concerns that unnerve the ordinary man. The necessity to address those concerns is a minimal requirement in order to avoid the label that scientist and bioethicists in a democratic society wish to avoid most: "elitist."

Conclusion

The flexibility of RBA as an empirical strategy for evaluating the moral value of a given technology makes it attractive to many bioethicists, especially under circumstances of uncertainty. It cannot, however, be said that it is unproblematic. In many instances the source of doubt is a paucity of essential data; and other vexing difficulties persist. Furthermore, these problems are not completely disposed of by qualifying the theory. At crucial points in the implementation of the strategy, judgments that surpass their empirical and theoretical warrant, must be made. I am not suggesting that modifications are impossible, rather that the intellectual problems that occur are no less controversial than those that accompany alternative normative theories rejected by proponents of RBA. If RBA remains appealing, it is because there are independent considerations that support its acceptance. The conclusion, then, must be that consequentialists are able to maintain this questionable theory because RBA ultimately relies on an intuitive

appeal. If this is correct, as I believe it is, not only is there warrant for suspicion about the theoretical assumptions, but there is reason to retain a certain evidentiary value for common-sense intuitions that depart more or less substantially from that pattern of reasoning.

The tension between RBA and the traditional conscience is not merely traceable to the typical clash between systems of belief that are more formal and empirical in nature and those that operate at an informal level. I have also suggested that the source of this tension is ethical. RBA in its normative structure follows consequential patterns of reasoning. On this view, bioethical evaluations are determined by efficiency of the processes in the production of a desirable state of affairs. This pattern is fundamentally at odds with the common-sense moral reasoning, which in matters of respecting human life and dignity greatly disvalues demands for efficiency. With respect to body cell gene therapy, that state of affairs has been narrowly defined as relief from human suffering. That aim, however, can also be substantiated by an independent appeal to the ordinary moral sense. As it happens, consequentialism and common-sense coincide in their judgment that it is ethical to use body cell therapy in proposed restricted cases to relieve pain.

But the consequentialism in contemporary biomedical ethics does not countenance any appeal to human nature. Its aim is largely to satisfy peoples' wants, whatever they may be. In this development greater significance is attached to being able to maximize outcomes. Bearing that in mind, I have attempted to make the case that the consequentialist stress on efficiency does not stop with assessing applica-

tions of genetic biotechnology to bodily functions, but it is equally intent upon controlling inefficient biological processes. Given this perspective, it is surely reasonable to seriously question whether consequentialism can impose any moral limits on technological advancement. That is the topic we shall take up next.

Chapter 6

ASSURANCES AND MORAL DISTINCTIONS:

ASSESSING THE CONSEQUENTIALIST RESPONSE

TO THE OBJECTIONS OF COMMON-SENSE MORALITY

I have been considering the primary justification for correcting genetic defects in human beings by means of direct intervention which is a simple consequentialist argument. That is, all things considered, the potential benefits of gene therapy in relieving human suffering far exceed the potential harms to individual, society, and the human race from genetic interventions. This inference is possible at the present time because the justification occurs under very stringent conditions:

- (i) the disease candidates are very severe (i.e., those afflicted face a life plagued by a debilitating disease and/or certain death),
- (ii) the defective genes express themselves early in childhood,
- (iii) affecting small numbers individuals in the population,
- (vi) and only individual patients,
- (v) according to scientifically predictable Mendelian inheritance patterns,
- (vi) with no alternative therapies available,
- (vii) nor any reasonable ways to adapt the patient's environment to his or her disease, and
- (viii) with the primary intent of intervention directed at benefiting the patient,
- (ix) through correcting, or repairing the defect, or restoring "normal" biological functioning,
- (x) by applying an experimental therapy resembling other types of innovative treatments in terms of risk and safety,
- (xi) which provides a reasonable hope for success.

This is quite a list of conditions that make it possible for RBA to yield a favorable indication. What is largely assumed by consequentialism is the appropriateness condition, (ix), requiring that specific applications are consonant with activities and purposes impor-

tant to being human. It is the absence of serious interest in discussing the centrality of this condition that arouses the critical response by the ordinary person. This general neglect of common-sense concerns is further exacerbated by the general inclination of consequentialists to widen the scope of applications of genetic interventions.

Although a general consensus exists that body cell therapy is an ethical application of genetic biotechnology, there is significantly less agreement as to how far the consequentialist rationale can be reasonably extended to cover other forms of genetic intervention before it transgresses the dignity and respect properly accorded to human beings. This specific disagreement over the scope of applications RBA will permit occurs not only between consequentialists and common-sense moralists, but among consequentialists themselves. Thus, we have seen that Anderson and John Fletcher are confident that this type of justification covers only a narrower range of interventions at the body cell level, certain genetic "enhancements" aimed at preventive measures (e.g., athrosclerosis), and an even narrower class of potential interventions at the germ-line level. Anderson does not give any specific examples of what circumstances might dictate manipulating germinal material, but he does offer some general provisos which include (i) considerable experience with somatic cell therapy, (ii) adequate animal studies, (iii) public approval, and consent of participating individuals or family. With respect to eugenic genetic therapy which seeks to improve personality and character traits, he appears to be leaning against such interventions, but as we shall see later there is a certain

ambiguity in his position.¹ Accordingly, Anderson seems to think that the consequentialist rationale justifies only a few types of medical interventions within its purview. However, there are a number of consequentialists who would challenge his apparent conservatism. LeRoy Walters is inclined to broaden the scope of enhancements to include at least long-term-memory traits. Joseph Fletcher and Jonathan Glover see no good consequentialist reason for limiting man's power to remake himself. Hence, the consequential justification based on the principle of utility leaves a good deal of latitude to maneuver toward any position with respect to the proper uses of genetic interventions. Indeed, Samuel Gorovitz thinks none of these distinctions make sense and is prepared to rest his case on the contrast between socially "tolerable and intolerable" interventions: "But it doesn't matter where exactly such lines are drawn, so long as they include the clearly tolerable cases and rule out the clearly intolerable ones. Draw them anywhere, after suitable public debate, so long as they fall within the band of grey."²

In response to Gorovitz, the common-sense moralist should want to ask what he means by tolerable and intolerable cases? What are the criteria for that determination? To what does the "band of grey" refer? One can imagine responses to be based on some application of the principle of utility. But clearly what he has in mind goes beyond the

¹For the tension in Anderson's position see above pp. 141-143. For his statements on these interventions see "Human Gene Therapy," Journal of Medicine and Philosophy 10 no. 3 (August 1985), pp. 276 ff.

²"Will We Still Be 'Human' if We Have Engineered Genes and Animal Organs?" Washington Post (December 9, 1984), p. C1.

specificity that Anderson and Fletcher struggle to provide, past the hypothetical that Walters imagines, and might come closer to what Joseph Fletcher and Jonathan Glover envision for the sure consequentialist position. Accordingly, there is sufficient reason for the ordinary person to be concerned. He has been intent on using an intuitive distinction between restoring defective traits and enhancing human nature, in the sense of making radical changes associated with germ-line intervention. But with the moral crisis in bioethics, not to mention Western culture in general, the issue has become how to justify that moral distinction. Without being able to anchor his moral distinction in traditional beliefs about human nature, the layperson is left without any plausible defense for retaining those categories. The loss of these moral distinctions raises the possibility of abuse. To assuage these concerns, consequentialists have stepped in to offer assurances that consequentialist distinctions will not lead to wholesale misuse. The strength of these protections will determine the validity of those concerns.

What I purpose to do, then, in this chapter is to present the common-sense patterned response as it emerges in the form of "slippery slope" arguments, and to examine the consequentialist assurances to safeguard the dignity of respect for human life. I will advance the thesis that consequentialism cannot establish effective limits on the sort of interventions currently thought to be the clearest case for justifiable manipulation. The primary challenge is directed at the logical problems inherent in consequentialism, but there is also reason to

believe that with regard to genetic engineering, widespread applications for routine therapy could on consequentialist grounds threaten deterioration of attitudes supporting moral rules respecting human life. This will be a subsidiary point that is worthy of discussion.

Setting Limits on Controlling Human Nature

The typical response of the ordinary person to the implementation of consequentialism in bioethics can be summed up in the objection that consequentialism, by its very nature, cannot set limits on manipulating human nature. Allegations about political abuses of genetic control concerning "who should decide?" are important but secondary.³ It may be true that utilitarians can guard against certain atrocities by repudiating the maxim that the end justifies the means; and perhaps they can even accommodate common-sense convictions regarding a respect for human life by judging the indirect utility of rules rather than the direct utility of acts. Contemporary consequentialism is not as Machiavellian as that maxim suggests; it does not sharply distinguish between means and ends. Even so, it remains possible for a means which is itself bad to be outweighed and hence justified by a sufficiently beneficial outcome. This specter of possibility, despite protests by consequentialists to the contrary, raises the common-sense suspicions about tampering with human nature.

³It is important to sort out the central thrust of common-sense and romantic allegations. The common-sense view is not inherently anti-science. Although common-sense and romantic objections might coincide, the romantic response in its counter-culture avant garde form is directed at the elitism of scientific control and the threat it poses to self-expressism. Common-sense apprehensions stem from what is proper respect for human beings.

Nevertheless, consequentialism because of its empirical dimension is very influential in bioethics. Accordingly, the layperson's challenge sometimes takes on an empirical character. This should not come as a surprise since consequentialism defines the perimeters of "proper" dialogue. There are a couple of ways in which the consequentialist influence is felt. One has to do with the principle of utility itself. It is attractive to scientists because of its alleged empirical nature. To ask what is the most efficient means to a therapeutic end is best addressed by one of the biomedical sciences. This explains why so much of the contemporary controversy centers around the delivery of the gene through various types of vectors, the expression of the new gene within the target cell, and the safety of surrounding cells once the normal gene has been inserted into the target cell. These are important issues of ethical consequence, but they are secondary to the question of the appropriateness of the intervention. Consequentialists are reluctant to address this type of question because its metaphysical implications are not accessible to empirical tests. Indeed, for this reason the issues affected by this question are often neglected or assessed in a wholly skeptical manner. Thus, there is the tendency for efficiency to usurp its legitimate authority, not just by judging the outcomes, but by becoming a goal itself. Because the ordinary person is not adequately trained in the biomedical sciences, he has little resources and no credentials to challenge the overall focus of controversy. A second, and closely related, way in which the empiricism of consequentialism shapes the common-sense objection is due to the attention given to assessing causes that bring about predictable

outcomes. This background produces a set of patterned responses commonly called "slippery slope" arguments. Given the context of debate, it should not be surprising that the ordinary person should try to argue his case on consequentialist turf. This does not necessarily make him a consequentialist; for a scheme should always be judged by its tenets rather than by its defensive posture. Since consequentialism typically places no credence in ordinary intuitions on the assumption that they rest on dubious foundations, the attempt by the ordinary person to demonstrate an empirically verifiable cause of harm, is also not surprising. What is extraordinary, however, is that consequentialists themselves should have such a low opinion of slippery slope arguments.⁴ But this attitude itself discloses certain substantive moral commitments. There are two different versions of the slippery slope argument which are not often sufficiently distinguished by the disputants. By sorting out these two strands, one can better evaluate their force.

⁴Instances of this attitude are reflected through the tone of Gorovitz's pointed characterization of those who argue against his position: "Those who argue differently are devotees of the 'slippery slope' approach;" in "Will we still be 'Human' if We Have Engineered Genes and Animal Organs," p. Cl. The President's Commission is more overt in its condescension toward the plain man's retort: "Obviously, slippery slope arguments must be very carefully employed lest they serve merely as an unthinking defense of the status quo;" in Deciding to forego Life-Sustaining Treatment (Washington, D.C.: United States Government Printing Office, 1983), p. 29. But consequentialism does lend itself to this form of argument, as evidenced by the fact that consequentialists themselves use it in legal discussions when it suits their fancy. Even if the consequentialists who oppose common-sense morality think that under the particular circumstances it is not compelling (in the sense that the point of the argument accords well with what they hold to be intrinsically valuable), they must at least admit its validity and relevance to the deliberations.

The causal versions of the slippery slope arguments. Con -

sequentialists tend to reduce all forms of the slippery slope argument to the causal version.⁵ The structure of this form typically is portrayed as acknowledging that the intervention or therapy as initially contemplated is apparently justifiable, but that its implementation will set in motion a series of causal effects unforeseen and unintended of which one or more are intrinsically unethical. In stating the argument in this manner, two structural features that are often overlooked by its critics need special attention. One feature regards the ethical status of the first step. Since this is an argument conforming to consequentialist patterns of reasoning, the initially contemplated intervention cannot be said to be justified in the full sense of the term; for the purpose of the appeal to side-effects flowing from the action is not to discredit the consequentialist position, but to show that on consequentialist grounds the action contemplated is wrong. If the first step were intrinsically ethical, as is commonly characterized by consequentialist, there would be no reason to appeal to future consequences to show that the action is unethical. This is a very important point, for consequentialist critics often place unjustifiable burdens on "would be" common-sense moralists requiring them to demonstrate what is ex hypothesi unintelligible to consequentialism; namely, that the initial

⁵President's Commission for the Study of Ethical Problems in Medicine and Biomedical and Behavioral Research Deciding to Forgo Life-Sustaining Treatment (Washington, D.C.: United States Government Printing Office, 1983), p. 28; Mary B. Mahowald, "Placing Wedges Along a Slippery Slope: Use of Fetal Neural Tissue for Transplantation," Clinical Research 36 (April 1988), p. 222; John C. Fletcher, "Ethical Issues in Gene Therapy" Journal of Medicine and Philosophy 10 (August 1985), p. 299; Sam Gorovitz, "Will We Still be 'Human' If We Have Engineered Genes and Animal Organs?" Washington Post (December 9, 1984), p. C1.

step is in some sense an unethical position. That cannot be known apart from the consequences the action produces. This fundamental error is well illustrated by the President's Commission: "Obviously, slippery slope arguments must be very carefully employed lest they serve merely as an unthinking defense of the status quo. The cost of accepting such an argument is the continued prohibition of some conduct that is actually acceptable."⁶ If the rightness or wrongness of an intervention could in principle be known independently of its consequences, which is denied by consequentialism, it would not be necessary to produce a supporting slippery slope argument. For all its disguised objectivity, the dispute, then, is really a disagreement about the values represented in the outcomes.

That is the second structural feature to notice about the causal version. In referring to adverse, unforeseen, and unintended consequences to justify prohibition of present actions, the appeal is to the values that the consequences represent (e.g., the importance of future generations and the irreversible changes in the genome; changes in parental obligations; and manipulations of human nature). These reveal underpinning intrinsic values that consequentialist critics reject, or at least hold in lesser esteem. Thus, the critics' strategy is to disvalue these by requiring that the nature of these adverse consequences be fully specified and assigned high levels of probability, or by invoking something like Smart's ripples on the pond postulate to show

⁶Deciding to Forego Life-Sustaining Treatment, p. 29-30. Carl Cohen has also fallen into this confusion in his defense of scientific inquiries into recombinant DNA; see "When May Research Be Stopped?" in Biomedical Ethics, eds., Thomas A. Mappes and Jane S. Zembaty (New York: McGraw-Hill, 1981), p. 507.

the plausibility of equally likely counter-alternatives, or by requiring that each causal link be shown to be instrumentally or intrinsically wrong. It is this implicit tendency to require an independent justification of initial actions or future consequences that shows a conflation with the logical version of the slippery slope argument.

The logical version of the slippery slope argument. The focus of this form of the argument is directed at the moral reasons or distinctions that provide the rationale for the given genetic intervention or research program. In contrast with the causal version, this form of the argument assumes the validity of the initial distinction. The point of the argument is to determine what new actions fall under its classification by testing the logical implications of their justificatory reasons against other accepted beliefs and conceptions throughout the entire scheme to confirm their overall coherence. The rational procedure does not involve reference to corresponding empirical realities affected by the causal connections of natural processes. It is not in this sense a consequential argument. This is not to say that there is no empirical basis for the distinction, but that observational evidence alone does not offer a definitive basis for falsifying the categories. This is an important characteristic because critics frequently attack the set of distinctions by concentrating on some empirical phenomena that is left unexplained by the classification with the expectation that the distinctions have been shown to be completely flawed. That requires a convergence of different sorts of consideration, both empirical and theoretical. The point is that deviation from this classification scheme, or repudiation of it in favor of some new organization are

criticized as being arbitrary. As we have seen, Anderson sets up several distinctions or "levels" of genetic intervention: somatic cell gene therapy, germ-line, enhancements, and eugenic or improvements. At each of these levels he tries to sort out the therapeutic aim with some lingering allegiance to intuitive distinctions while relying on an overall consequentialist justificatory system. The common-sense distinction has been based on the set of contrasts involving corrections, repairs, or restoration and enhancements or, more generally, improvements. It is a rough distinction that permits restorative endeavors and prohibits improvements. This creates, serious problems as we shall see. In the present bioethical crisis, it is difficult to maintain these distinctions because of the necessity to anchor these conceptions in a larger frame of reference concerning human needs and conditions often associated with the Aristotelian or Judaeo-Christian philosophical beliefs. Each belief system is repudiated by the contemporary thinker. But, it is certainly open to question whether some such appeal to human nature is ultimately required, as the standard justification of biotechnology attests, even if for pragmatic disinclination to inquire into its rationale. In the absence of such a frame of reference, one has difficulty discerning whether there are acceptable levels of suffering, and if there are, why they are thought permissible.

These, then, are two of the ways in which laypersons express their objections to genetic engineering. They are not at all convinced that consequentialists can draw lines sorting out appropriate and inappropriate actions, nor do they think it is reasonable to do so. These are not stupid apprehensions for a couple of reasons. One, the

has in practice, confirmed their concerns about "abuses." Secondly, increased interest in making the biological processes more efficient in meeting individual wants challenges their natural piety expressed through the dignity they accord to the individual. The cumulative effect of these doctrines do sufficiently warrant their concerns. Bearing this in mind, it is incomprehensible that burdens of proof be placed on critics of utilitarian bioethics, requiring them to show whether or not a research program or intervention has the potential for radically altering the way we see ourselves and the world. The proper locus of that burden should be on a scheme, such as consequentialism, which has the problem of setting limits on types of interventions that should be considered permissible. If indeed this is a fair assessment of the responsibility of consequentialism, the presumption of who rightfully carries the burden should be reassessed and reassigned.

The use of slippery slope arguments in the specific context of gene therapy. I have already taken the occasion to introduce the complaint that "there is no logical place to stop" once we begin to manipulate genes in the discussion of Jeremy Rifkin. He argued against genetic intervention on the basis that potential long-range atrocities might incrementally come about once the biotechnology for body cell therapy is perfected. John Fletcher, however, has given assurances that rational distinctions could be made to forestall those heinous practices associated with the eugenic movement of the early twentieth century which offend deeply held convictions regarding human life. Furthermore he claims that consequentialism is able to meet those allegations by suggesting that such abuses could be adequately safeguarded against. I

conclude that Rifkin's romantic view of nature on which he based his objection to genetic applications left him without a basis on which to justify medical intervention of any sort. This position would seem to make him vulnerable to the charge of being morally insensitive toward pain and misery.⁷ That, as I take it, is primarily Fletcher's concern which Rifkin leaves largely unaddressed. Thus, Fletcher, as well as those who share his general orientation, have some basis for responding to those inarticulately felt concerns that the educated, but non-scientific-minded, person typically expresses in discussions over gene therapy. But the same concern regarding limits to genetic intervention is not unique to Rifkin; indeed it is a frequent allegation expressed apart from the romantic framework of nature. In light of this exchange it is helpful to revisit these arguments and assess their strength.⁸

Fletcher's response comes as a retort to a New York Times editorial, stating the objection to gene therapy in the form of a slippery slope argument.

Repairing a defect is one thing, but once that is routine, it will become much harder to argue against adding genes that confer desired qualities, like better health, looks, or brains. There is no discernible line to be drawn between making inheritable repairs of genetic defects, and improving the species.⁹

⁷Fletcher, "Ethical Issues in Gene Therapy," p. 301.

⁸Fletcher, "Ethical Issues in Gene Therapy," p. 302 ff.

⁹New York Times "Whether to Make Perfect Human Beings" (July 22, 1982), p. A22.

There can be no doubt that this expresses the ordinary man's misgiving with the failure to establish effective limits to biomedical research. Yet stated as it is here, there is much oversimplification of many subtleties that make it susceptible to a consequentialist rebuttal. As it stands, there appear to be two claims.

First, a veiled reference to the causal argument asserting the likelihood that a medical intervention designed to treat fatal or excruciating genetic disorders will come to be routinely used to enhance desired qualities. We are not told why this is the case, but one could plausibly interpret it as meaning that the development from therapeutic to non-therapeutic applications would follow a psychological path. This presumption might also be supported by a belief that once gene-splicing has become perfected through medical uses treating single-gene disorders it will be accessible for other desirable applications. One way this might happen is that the motivations, behavioral inhibitions, attitudes, and moral beliefs involving moral rules defining respect for human life become weakened by a society that makes gene therapy available for cases involving much less severe diseases. In this imagined society gene therapy becomes preferable to other alternatives to the extent that their effectiveness and maintenance diminishes in importance. Moreover, public funds for developing alternatives are diverted to other forms of gene therapy as the political pressure encourages increased explorations into human genetics. In this setting, it is plausible to think that the layperson and medical professional, alike, find it increasingly difficult to discern the moral difference between manipulating natural processes for any reason and promoting limited medical objectives to

restore normal functioning to the individual patient. It is the latter rationale that falls within the perimeters of moral rules respecting human life. One need not imagine a brave new world scenario, only a situation in which there is a sufficient number of less dramatic instances where gene therapy is widely known to be used for reasons that depart from the original justification of restoring health or alleviating the pain in suffering patients. In this world, inhibitions reinforcing a refusal to "play God" would give way to a more technological mind-set. Internal strains are created by conflicts within the moral code because motivations and attitudes are adversely affected by the interplay among the combination of rules, resulting in widespread disregard for more and more of the provisions of the moral law respecting human life.

Shaw Livermore has raised a similar psychological concern in his arguments against the development of recombinant DNA technology by the University of Michigan: "This capacity would be so great, so overwhelming, as to exceed the capacity of the society to direct and control it."¹⁰ From the consequentialist perspective that treats moral actions or rules as being singly falsified or verified before the tribunal of the risk/benefit ratio, this position will no doubt appear demeaning to human reason. How can the loss of one or more of these rules weaken the whole set? Thus, Cohen rebuts Shaws argument:

¹⁰Cited by Carl Cohen, "When May Research Be Stopped?" in Mappes and Zembaty, eds., Biomedical Ethics, p. 505.

Some present uncertainty about the outcome of this application surely does not justify the cessation of the inquiry. And even if only the potential for wise control is now present, the realization of that potential can be stimulated and encouraged only with the advance of the inquiry in question.¹¹

Cohen may be correct with respect to certain types of DNA research programs, but not all. The psychological thesis of the causal slippery slope counts against this occurrence. Rather than stimulating and encouraging such capacities, it claims that these will have an adverse effect on other inhibitions, motives, and attitudes such that their overall optimal utility for the complete set is lessened. Cohen's simple consequentialism fails to comprehend that the accepted moral code is a vast web of interdependent patterns of thought and reinforcing dispositions. On this view, neither actions nor rules are individually subjected to the utilitarian test, rather, it is the entire set of rules.¹² That makes it possible for one sector to strengthen or weaken the entire scheme. Thus, it seems plausible that a causal connection of a psychological kind between "making inheritable repairs of genetic defects, and improving the species" might come to exist within a society. But certainly the typical consequentialist is vulnerable to the criticism that he does not give due consideration to these sorts of considerations.

¹¹Ibid, p. 505.

¹²This form of consequentialism is defended by Richard Brandt, "Toward a Credible Form of Utilitarianism," in H. N. Castaneda and George Nakhnikian, eds., Morality and the Language of Conduct (Detroit: Wayne State University Press, 1963), pp. 107-143.

The second claim in the editorial relies on the logical version of the slippery slope argument by alleging that "there is no discernible line between repairing genetic defects and improving the species." Although the point is somewhat overstated here, it is scarcely a parody of the situation that exists once the standard for discerning the differences shifts from what are proper human ends to risk/benefit ratios and medical attention moves beyond monogenetic diseases. The allegation is a much stronger attack on consequentialism because it alleges that the problem of setting limits is logically inherent to the scheme. To make that case, however, the editorialist needs to show what is largely assumed, which is that some logical feature conceptually commits the consequentialist to tolerating those questionable forms of genetic manipulation. Unfortunately, the point can easily be confounded with the psychological thesis, consequently, the ordinary man's concern is often misunderstood. Fletcher is not alive to this muddle, when he criticizes the writer for failing to recognize "the moral readiness of those most capable of acting on the distinction."¹³ This is the type of response that would be given to the psychological interpretation of the causal slope argument applied to biomedical researchers; it does not touch the logical version being presented here. The logical version alleges that scientists, like anyone else, will interpret the morality of their research projects in accordance with their systems of individual and professional moral beliefs. If they believe that the duty to pursue scientific knowledge for the benefit of humankind is paramount, that ethical value will weigh heaviest in their overall scheme. As an

¹³Fletcher, "Ethical Issues in Gene Therapy," p. 302.

experience of intrinsic value, the consequentialist logic of the scientific-oriented ethic requires that it be subjected to the maximizing conditions of the scheme. Hence, the pursuit of scientific knowledge might even appear as if it were a "practical absolute." When this occurs, the ordinary man's perceptions are likely to be impugned as subjective opinion charged with emotion. Fletcher, himself, comes precariously close to this view when he says, that "doubt about linedrawing prevails in the early stages of moral conflict, when emotions and the fever of conflict run highest." The question, however, is not whether an issue is emotionally charged, but whether moral beliefs admit rational support regardless of personal commitments to one's system of belief, and whether that justification must follow non-consequentialist patterns of thought. My contention is that consequentialist patterns of reasoning are in various ways inadequate to satisfy the common-sense moral concerns, and that only by relying on non-consequentialist normative considerations can those requirements be satisfied.

This confusion is further confounded by the usual line of defense consequentialists pursue against the logical thesis which is to cite factual cases where distinctions have been made. Again, because the ordinary person is giving a conceptual argument attacking the maximizing or minimizing of conditions essential to consequentialism these empirical rebuttals, though interesting, are not on point. Fletcher, for instance, thinks that the layman's complaint questions the researcher's capacity to conceive of moral distinctions. But the issue has less to do with making morally relevant distinctions for medical

practice and research than with the justification for them, and whether that rationale is ethically more acceptable than common-sense norms. Fletcher is correct in his desire to establish and to promulgate moral guidelines for medical research. One can scarcely doubt that the clinical researchers and bioethicists possess that rational ability. But the distinctions that are set up and those that are found acceptable for public policy are largely based on consequentialist reasoning, which are directed at various outcomes, rather than prohibition of certain actions and intentions. Fletcher, moreover, thinks that any departure from those canons is irrational. The moral distinctions that he makes are in this sense theory dependent. He is not alive to the charge that it is his normative theory that is in question. In other words, he assumes that the moral acceptability of any therapy lies solely in the state of affairs it produces. A therapy is ethically acceptable only to the extent that it is conducive to bringing about a specified state of affairs. Consequently, there are no grounds to assign rightness or wrongness to certain applications of therapies apart from whether the consequences are judged (by someone or some community) acceptable or unacceptable. The view that counts actions as inherently right or wrong has come under fire within the medical context only recently. Furthermore, it is also on the basis of judging particular acts rather than outcomes that traditional moral distinctions make sense.

The point I am making can be readily seen from the examples Fletcher approvingly cites as evidence for the fact that morally relevant lines have been drawn in biomedical ethics. In the case of the terminally ill, for instance, the "older moral distinctions" which once

guided the professional's actions have been, according to Fletcher, "reformed successfully." For him, the only sure principle for judging interventions is "in terms of a difference between harms and benefits to the patient's best medical interests."¹⁴ On this view, the focus of the standard for evaluation shifts from actions to consequences. In general, this means that the responsibility has shifted from the moral intentions of the physician to the desired outcome as stipulated by the patient. In the light of his consequentialist perspective, it is not surprising that Fletcher cites the President's Commission study pertaining to decisions to forego life-sustaining treatment, as evidence of the fact that society has the capability to make moral distinctions. Its findings also show a drift away from traditional moral categories that assess the morality of actions.

Although the categories--causing death by acting versus by omitting to act; withholding versus withdrawing treatment; the intended versus the unintended but foreseeable consequences of a choice; and ordinary versus extraordinary treatment--do reflect factors that can be important in assessing the moral and legal acceptability of decisions to forego life-sustaining treatment, they are inherently unclear. Worse, their invocation is often so mechanical that it neither illuminates the actual case nor provides an ethically persuasive argument.¹⁵

Having noted the incoherence of those categories, the Commission places primary emphasis on desired outcomes as the proper basis for public

¹⁴Fletcher, "Ethical Issues in Gene Therapy," p. 302.

¹⁵President's Commission, Deciding to Forego Life-Sustaining Treatment, p. 62.

policy.¹⁶ It did, however, permit a subordinate role for other traditional categories, but it is left to the reader's imagination as to what their function is and how much weight, if any, should be allotted to them in the deliberative process. On this basis, the Commission concluded that it is best to judge the consequences of particular decisions rather than actions themselves:

Other bases are sometimes suggested for judging whether life-and-death decisions about medical care are acceptable or unacceptable beyond making sure that the results of the decisions are justified in the patient's view by their expected good.¹⁷

So then, the issue is not that distinctions cannot be made, but that these are reduced to subtleties within a larger theoretical scheme. The tactic of citing counterexamples begs the question, for they, too, are based on the consequentialist standard, the validity of which is thought to be questionable by the non-consequentialist. Fletcher's unsuccessful maneuver underscores an equally important point that he has failed to establish consequentialist moral distinctions with any normative force. That is, of course, what the editorialist predicted. Whatever moral distinctions bioethicists make, they will be inherently part of a larger system of beliefs. The looming issue, we are told, is how to justify our normative systems, rather than assume the truth of consequentialism, and then use it as a basis for attacking common-sense moral distinc-

¹⁶The one exception to this statement involves the contrast between voluntary/involuntary actions. This distinction, however, points out the difficulty in maintaining a pure consequentialism. In this scheme, the norm of voluntariness serves as a side-constraint on carrying out practices derived from consequentialist standards. The non-consequentialist might rightly seek the grounds for this side-constraint.

¹⁷Ibid., p. 61.

tions. Given that biomedical researchers are drawn toward a single-minded duty to advance medical knowledge, I concur with the general concern reflected by the author of the New York Times article. Consequentialism fails to set real limits to research for human beings, even though researchers themselves remain favorably disposed to regulations and standards of safety.

Because the strategy of consequentialism is to translate the ordinary man's thoughts and concerns into language and ideas compatible to that scheme, it is easy to miss what is really being said. The issue is not whether distinctions have been or even can be made; rather, it is whether or not the distinctions that consequentialism makes safeguards what the ordinary man believes to be worth saving. The ordinary person seeks limitations to genetic intervention and research because at some point it becomes obvious, at least to him, that biomedical advances compromise the very life they are designed to heal. Surely consequentialism under pressure to maximize outcomes consisting in certain kinds of experience has a serious difficulty accommodating those considerations. In their negative role, slippery slope arguments accentuate this problem. Causal arguments disclose insight into types of intrinsic values underpinning consequences of action that are rejected by the system. Logical arguments, based on intuitive distinction between restoration and improvement, serve as a warning that the standard of balancing risks and benefits can also produce conclusions that are compatible with beliefs and values abhorrent to any sensitive conscience. But, slippery slope arguments are not just rhetorical. In their positive role, causal slope arguments identify side-effects, per-

haps foreseen or unforeseen but certainly unintended, that can tell us something about the nature of an action in ambiguous situations. Logical slope arguments forge a closer link between reasons and actions. They also create a weighty presumption favoring the intuitive distinction between avoiding gross evil on the one hand and trying to introduce improvements on the other. It must be pointed out that these arguments can be used against consequentialists, as well as non-consequentialists. Enough has been said to warrant the common-sense conclusion: if consequentialism is correct, there are no limits to genetic interventions for, in principle, any sort of action at all might be permissible given favorable circumstances, provided only that it leads to the best consequences overall. Whatever limitations are established are imposed on consequentialism; they are not in any absolute way prescribed by consequentialism.

The Unthinkable as a Moral Category

The further problem is endemic to the whole consequentialist scheme of thought. Its mode of reasoning engages the ethical imagination in perpetually conjuring up and comparing all states of affairs resulting from any course of action, and selecting that course of action which achieves the greatest measure of whatever the system considers intrinsically valuable. Engelhardt has mastered this mode of thinking and candidly recommends it to all bioethicists: "One need only to see some allure of benefit in order to engage earnestly in examining what

the possibilities of harms and benefits could be."¹⁸ This is the moral category of the unthinkable, a capacity free of any inhibitions not only to imagine any possible world, but to seriously entertain its actualization. Thinking the morally unthinkable accentuates the degree to which no action in this scheme is intrinsically good or bad. This attitude is closely associated with the maximizing doctrine since it would not be a distant step to reason from the requirement to compare and maximize existing outcomes to comparisons between actual and possible states of affairs. Technology can be approved quite differently in this situation. In an age of biotechnology where means can be managed by artificial methods, it is reasonable to extend the consequentialist requirement to cover such deliberations. Indeed, the technical and ethical imaginations have become fused in this category. Although the consequentialist talks about limitation to therapeutic actions, it must be recognized that it is not actions per se that are under consideration, but actions insofar as they are conducive to the desired state of affairs. This is quite a different notion of limit.

But that is not the way the common person conceives moral enterprise as guiding biomedical research. To see this it is helpful to contrast consequentialism in which moral limits are said to be defined in terms of a balance of risks and benefits, with Bernard Williams' explanation of the kinds of restrictions imposed by non-consequentialism. Here is LeRoy Walters before a congressional hearing

¹⁸H. Tristram Engelhardt, "Persons and Humans: Refashioning Ourselves in a Better Image and Likeness" Zygon 19 (September 1984), p. 285 [emphasis mine].

on genetic engineering forcefully straining to grasp the possibilities that await the applications of germ-line manipulations, and to convey that vision to a group of sober politicians, hoping that they, too, will catch what he cannot put into words.

Here we reach an outer limit of both technical and ethical imagination. One is rendered almost speechless even contemplating the possibility that enhancements of human capabilities might one day be able to be transmitted to our progeny. Yet if certain enhancements by means of somatic cell modification prove to be highly beneficial to members of a particular generation, then some or many or perhaps even most members of that generation may justifiably decide to bequeath the enhanced capability through the germ line to even their distant descendants.

My general conclusion is a quite simple one: We should not foreclose in principle any potentially constructive application of gene therapy to human beings. The mere fact that a remotely possible technological development would force new and difficult decisions upon us should not, by itself, cause us to reject that development. Rather, it should stimulate us to reflect carefully, and well in advance, as we envision alternative human futures.¹⁹

Walters, of course, can say these things because he has astutely cultivated the moral category of the unthinkable. Even if he is unable to specify the exact nature of the expected benefits, a standard interestingly enough, which he holds for critics of germ-line intervention who cite negative consequences flowing from its application, he can intuit with his "moral sense" that their potential is indeed real. However, the limits imposed by common-sense morality shift the entire frame of reference to such a degree that certain possibilities which

¹⁹U.S. Congress, House, Committee on Science and Technology, Hearing before the Subcommittee on Investigations and Oversight, 96th Cong., 1st sess., November 1982, p. 390.

consequentialism must seriously entertain, despite the apparent extremity of the proposed situation, fail to present themselves as genuine alternatives. The fundamental norms and moral conceptions set the perimeters on the ethical imagination such that some states of affairs are "unthinkable" no matter what the consequences might indicate to the contrary.

One could regard this process of adaptation to consequentialism, moreover, not merely as a blank piece of psychological association, but as concealing a more elaborate structure of thought. One might have the idea that the unthinkable was itself a moral category; and in more than one way. It could be a feature of a man's moral outlook that he regard certain courses of action as unthinkable, in the sense that he would not entertain the idea of doing them: and the witness to that might, in many cases, be that they simply would not come into his head. Entertaining certain alternatives, regarding them indeed as alternatives, is itself something that he regards as dishonorable or morally absurd. But, further, he might equally find it unacceptable to consider what to do in certain conceivable situations. Logically, or indeed empirically conceivable they may be, but they are not to him morally conceivable, meaning by that their occurrence as situations presenting him with a choice would represent not a special problem in his moral world, but something that lay beyond its limits. For him, there are certain situations so monstrous that the idea that the processes of moral rationality could yield an answer in them is insane: they are situations which so transcend in enormity the human business of moral deliberation that from a moral point of view it cannot matter any more what happens. Equally, for him, to spend time thinking what one would decide if one were in such a situation is also insane, if not merely frivolous.

For such a man, and indeed for anyone who is prepared to take him seriously, the demand, in Herman Kahn's words, to think the unthinkable is not an unquestionable demand of rationality, set against a cowardly or inert refusal to follow out one's moral thoughts. Rationality he sees as a demand not merely on him, but on the situations in, and about, which he has to think;²⁰

²⁰Utilitarianism, p. 93.

In ordinary parlance, certain things are "absolutely out of the question." The notion of 'absolute' as it is used in moral discussion is often confusing. It can, for instance, be contrasted with moral relativism, or compared with exceptionless rules, but in this context where the discussion centers on the limits on what is morally tolerable, it means "regardless of the consequences." It is in this sense, as it has been persuasively developed by Williams, that captures the way the ordinary person thinks about certain forms of genetic intervention. To refer to a point made previously, if people are reluctant to accept somatic cell therapy, it is because the question has been framed in consequentialist terms which raises doubts as to what further forms of gene manipulation are in the offering. Faced with the decision of either improving a patient's health, or, for all practical purposes, "giving away the store," it might very well seem that the prudent thing to do is to refuse to engage in all forms of genetic intervention, if one expects to retain some semblance of the traditional belief that human life has special value. For germ-line genetic intervention, if it is morally conceivable at all, is now considered under conditions that have a limited focus, circumscribed by a narrow aim. Actions taken apart from those intentions will not be therapeutic and in this scheme will be "unthinkable." The ordinary person is perfectly content with the rough distinction between actions intended to correct the destructive processes of a debilitating disease and action aimed at improving one's existing biological estate. Although the line between these types of interventions is unclear, it captures enough of the ordinary person's natural piety so that he does not recognize himself as "playing God."

It is not simply that he refuses to imagine other states of affairs derivative from his own experiences which present them with "better" situations in life, rather he lacks a capacity of imagining himself as being obligated to bring about those states of affairs in a way that consequentialists must be able to countenance. He does not see it as being his business to bring them about, no matter how much good it might achieve. The principle of utility, in short, is not part of their conscious or unconscious moral being. This is not alarming, except to those consequentialist who believes that the truth of the principle is established self-evidently. This is an important point and is certainly a different way of seeing the whole issue which Fletcher and others have not fully appreciated, and logically cannot.

Consequentialist Assurances

If my analysis of consequentialism is correct, there is sufficient reason for the uneasiness people express about genetic engineering. To reinforce the consequentialist rationale, however, a number of assurances have been offered against possible abuses in order to emphasize the stability of the existing limitations. These might be construed as setting limits to the sort of actions that can be undertaken by researchers in manipulating the human genome. Yet what initially appear to be limits to the types of interventions that are ethically acceptable turn out on closer examination to be obstacles that obstruct further investigations. I will argue that the bioethicist needs to distinguish assurances and moral limits rather than equate the two. Accordingly, assurances whose only a minimal challenge to the main criticism being advanced which claims that the logic of consequentialism

cannot establish any effective limits on the types of actions or interventions believed to be intolerable for human beings. The extent to which these assurances are found to be unsatisfactory can be determined by an examination of the theoretical commitments on which they rest.

Technological Barriers Safeguard Misuses of Genetic Applications. Fletcher is not alone in failing to grasp the essence of the common sense objection. Bioethicists and medical geneticists alike commonly assert that because germ-line therapy is not technologically possible in the foreseeable future the layperson's ambivalence about genetic manipulation has no warrant. Two prominent biomedical researchers in the field, among a host of others, offer assurances that amount to technological limitations in their discussion on somatic cell therapy.

In our view, gene therapy may ameliorate some human genetic diseases in the future. For this reason, we believe that research directed at the development of techniques for gene therapy should continue. For the foreseeable future, however, we oppose any further attempts at gene therapy in human patients because (i) our understanding of such basic processes as gene regulation and genetic recombination in human cells is inadequate; (ii) our understanding of the details of the relation between the molecular defect and the disease state is rudimentary for essentially all genetic diseases; and (iii) we have no information on the short-range and long-term side effects of gene therapy. We therefore propose that a sustained effort be made to formulate a complete set of ethico-scientific criteria to guide the development and clinical application of gene therapy techniques. Such an endeavor could go a long way toward ensuring that gene therapy is used in humans only in those instances where it will prove beneficial, and toward preventing its misuse through premature application.²¹

²¹Theodore Friedmann and Richard Roblin, "Gene Therapy for Human Genetic Disease?" Science 175 (March 1972), p. 954.

Richard McCormick discusses the fundamentally different considerations that affect deliberations on germ-line therapy, but he sees these as "largely academic because germ-line therapy is not now technologically feasible."²² Morris Abrams writing as Chairman for the President's Commission in the cover letter to its report "Gene Splicing" alludes to germ-line applications as "hypothetical," a reference obviously denoting the present technological status of the technique. Later in the report in an attempt to clarify the prospect for zygote therapy as a necessary procedure in order to develop the germ-line technique, the Commission writes:

Therefore, the technical uncertainties, the ethical implications, and the low probability of actually treating an affected person are strong contraindication against therapy of fertilized eggs or embryos becoming a useful clinical option in the near future.²³

The same argument is made with regard to distinguishing gene therapy from eugenic genetic engineering:

Eugenic Genetic Engineering refers to the use of recombinant DNA technology to alter traits such as intelligence, personality, and organ formation. These traits are controlled by hundreds--perhaps thousands--of genes interacting with multiple factors in the environment. The genes involved have not been identified. Furthermore, scientists do not have the tools to manipulate these complex traits, and do not expect to have them in the foreseeable future.²⁴

²²"Genetic Technology and Our Common Future" America (April 27, 1985), p. 340.

²³President's Commission for the Study of Ethical Problems in Medicine and Biomedical and Behavioral Research Splicing Life (Washington, D. C.: United States Government Printing Office, 1982), p. 48.

²⁴Eve K. Nichols, Human Gene Therapy, Institutes of Medicine, National Academy of Sciences (Cambridge: Harvard University Press), p. 12.

To be sure, there are technological "limits" at the current time, and these do serve as reminders that the appropriateness of various genetic interventions must be argued on the merits of each individual case. Nevertheless, that a therapy is technologically inconceivable is not the same as being morally inconceivable. Whatever strength there is to the claim that abuse can be forestalled because of technological limits, it is clear that the claim is not tantamount to moral limitations on action. To this argument the consequentialist has recourse to two lines of response.

First, the ordinary person will be accused of technophobia. Consequentialists frequently criticize theologians who complain that "If it can technically be done, it will be done!" for being much too technologically deterministic. However, given the consequentialist expanded mandate to compare the potential risks and benefits of all probable and imaginative outcomes, it is scarcely a parody to rephrase the technological imperative to read, "If it can be done it must, or, at the very least be considered and seriously assessed in terms of the consequentialist standard of evaluation, with the intention to actualize that outcome offering the greatest amount of desirable experiences." This is, after all, what it means to be impressed by the newly derived moral category which demands one think the unthinkable. This attitude reflects what the religious person often has in mind when referring to the technological imperative. One must, I think, grant some measure of warrant for that attitude. For if an undeveloped technique is all that prevents achieving the desired state of affairs, then any attempt to thwart its development would presumably be "unethical" by con-

sequentialist standards. And, if the resistance is too strong, it will be further argued that such obstruction threatens competitiveness in biomedical research. In reality, however, the dispute has little to do with that situation, but is a debate about whether the specifiable state of affairs is indeed desirable; that is, whether certain techniques brought about by biotechnological progress are suited to significant human needs and activities. So, once again we are driven to the centrality of some conception of human nature to justify the chosen course of action.

Second, consequentialists can cite counterexamples of possible technological advances which have been prohibited despite their potential for human benefit. But again, unless these prohibitions are shown to rest on grounds independent of consequentialism, they, too, will be unconvincing and vulnerable to the charge of begging the question. As I have already noted, the issue at hand concerns the moral evaluation of consequentialist safeguards, not the presence of an elaborate set of provisos. An examination of these "checks" might likely turn out to be little more than promises of safe and effective regulation, rather than absolute limitations on actions taken to manipulate natural processes.

Counterexamples used to show that society has the capacity to make and abide by ethical distinctions, moreover, can be incorrectly applied to situations involving gene therapy. When corrected they can be shown to be unsuitable for the intended critical purpose. A case in point regards the frequently used eugenic example of techniques in animal breeding. If employed these could have significant social utility. Society, however, has proscribed applications to human beings.

Stich, as well as the President's Commission,²⁵ cite this counterexample that ex hypothesi should apply to humans. That our society has not seen fit to make such an extension is stressed by Stich to show evidence that society is not prepared "to breed people as we breed dairy cattle, simply because we know that it can be done."²⁶ It is, therefore, fully capable of setting limits on what kinds of human activities can be manipulated. Then follows Stich's conclusion:

Those who take the more extreme step of trying to stop the knowledge from being uncovered presumably feel that its improper use is all but inevitable, that our political and social institutions are incapable of preventing morally abhorrent applications of the knowledge while encouraging beneficial applications. On my view, this pessimism is unwarranted The historical record gives us no reason to believe that what is technologically possible will be done, no matter what the moral price.²⁷

In evaluating this challenge to the causal version of the slippery slope argument, one must carefully consider its relevance for the various forms of gene therapy. The use of the eugenic breeding example illuminates this general observation. It is misleading to use restrictions on breeding to provide assurances that questionable practices will not follow from somatic cell therapy. Since body-cell intervention has little to do with reproductive activities the allegation holds, but its relevance for abuses from body cell intervention is doubtful. If one offers the animal breeding counterexample as an assurance that improprieties will not occur with germ-line manipulation, it quickly loses its credibility. This is because in this context germ-line manipulation

²⁵Stich, "The Recombinant DNA Debate" p. 199; Splicing Life, p. 71. Splicing Life, p. 71.

²⁶The Recombinant DNA Debate p. 199.

²⁷Ibid.

would require continual surveillance of all offspring over several generations. Accordingly, it does not stretch one's imagination in the least to see that some form of controlled breeding, if only for the parents who voluntarily submitted to germ-line intervention, is a plausible scenario.

Consequentialists frequently argue that reliance on intuitive judgments that distinguish between removing palpable evil and promoting good is always a questionable practice. The application of the RBA is much simpler, so it is said. In a sense that is correct. Its simple rule of maximizing or minimizing utility, weighing benefits against risks, seeking the most efficient means to an end, and doing so with reliance on fewer other ancillary principles such as respect for human life makes it attractive to contemporary bioethics. But the difficulty with the virtue of simplicity, if it be a virtue, is that it often distorts moral experience by failing to scrutinize which kind of natural processes should be manipulated and for what sort of purposes. To neglect these basic considerations is no argument for holding that they should not be met. The desire for parsimony may itself be unreasonable because in this context it is pursued at the expense of adequacy. If instead the requirement of benefits exceeding risks becomes the standard by which technology can be introduced to alter the genetic constitution without reference to the intention of the action, then it can be a standard that is, arguably, broad enough to encompass many things: for instance, manipulating germinal material, enhancing physiological traits, improving personality and behavioral traits, pre-determinating the sex of a child, as well as manipulating any other natural processes

that affect an individual's aspirations and activities. If moral reasoning requires anything at all, it demands consistency be given its due recognition. Consequentialists are susceptible to serious censure here because of their abhorrence to ordinary values and beliefs which reflect the "status quo" leads them to reduce all slippery slope arguments to the form of the causal version. But they must also respond to the logical extensions of their theory which may conflict with common-sense beliefs. In short, the assurances offered by barriers to technological advancement are contingent and provide no sure basis for protections that respect human life.

Scientific Ignorance Provides Protections Against Misuse and Premature Applications. A similar point can be brought to bear on assurances, introduced by Eve Nichols, based on the distinction between monogenetic and polygenetic traits. The main issue is whether and to what extent the environment is a determinant of the genotype that underlies a phenotypic expression. Bernard Davis is even more adamant in his conviction that "for a realistic assessment of these dangers the distinction between single-gene traits and polygenetic traits is crucial. This vast ignorance about polygenetic traits," according to Davis, "protects us against the main possibilities of harm from gene replacement."²⁸ W. French Anderson confidently states that, "Regardless of how fast our technological abilities increase, there should be no attempt to manipulate, for other than therapeutic reasons, the genetic framework of

²⁸"Genetic Engineering: How Great is the Danger," Science 186 (October 1974), p. 309.

human beings."²⁹ But what, we may ask, is the justification for this "absolutist" stance? It is certainly uncharacteristic for their general consequentialist posture. As it happens, the grounds for this strong position are illusory and rest solely on the mere fact that, "We simply should not meddle in areas where we are so ignorant."³⁰ It is more in line with his normative views to construe these high-minded assurances as being compromised by consequentialist and empiricist leanings to such an extent that the "absolutist" pronouncement loses its categorical demand. Thus, Anderson concludes that "the concept of 're-making a human' is not realistic at present."³¹ This implies that as scientific knowledge progresses through an enhanced ability to predict specified outcomes, the barriers between treating enzymatic malfunctions and manipulating personality traits will disappear. To most people that will not be reassuring, given that technological barriers only pose new challenges to a scientific mentality which seeks to rationally control all natural processes underlying human behavior.

The real issue for Anderson, then, is not the constitution of polygenetic traits such as personality, or memory per se, but the insufficient scientific basis for predicting the results of specific interferences with biological functioning due to the ignorance of how the environment interacts with the genetic code. Conceiving the precaution in this way casts quite a different light on the nature of what Friedman calls the "ethico-scientific criteria," the thrust of which is

²⁹Human Gene Therapy, p. 289-290.

³⁰Ibid., p. 289.

³¹Ibid., p. 289. [emphasis mine]

to invoke the canon of prudence. For one thing, they subordinate morals to science, rather than letting them check scientific applications and lines of research. For another thing, that perspective on the issues fails to deal with the knowledge-oriented ethic of scientists, the single aim of which is to advance knowledge of human nature and harness it for the benefit of mankind. As we have seen, scientific knowledge has intrinsic values, therefore, it is subject to the maximizing condition of consequentialism. Ignorance, moreover, is despised, it is an obstacle to be overcome, and an impediment to progress. Lack of knowledge about the human genome poses no serious limits, since the duty of scientific advancement is to convert that circumstance into a case for pouring research dollars into the area of human genetics for acquiring more knowledge. That case would, no doubt, be built around the premise that not to do research would result in greater harm than the loss that might occur from not doing scientific research in a respective area.³² Therefore, the limitations that are imposed by ignorance of genetic interaction with the environment are merely contingent. This is not to suggest that the scientific humanistic program must be radical in the sense that it act hastily, since experimental applications are always carried out under conditions of uncertainty. Medical genet-

³²I have drawn attention to this above pp. 178ff. The argument of the knowledge-oriented ethic as I present it is a form of ideal utilitarianism. For a defense of gene therapy research following this line of reasoning which also incorporates joined with the argument of negative responsibility see Richard T. Hull, "Philosophical Considerations in the Growing Potential for Human Genetic Control," Ethical and Scientific Issues Posed by Human Uses of Molecular Genetics, eds., Marc Lappe and Robert S. Morison, *Annals of the New York Academy of Sciences*, vol. 265 (New York: The New York Academy of Sciences, 1976), pp. 120-124.

icists, too, are familiar with the warnings of Brave New World. It is not that they are intent upon acting from malice in order to carry out their experiments. Any system of belief that tolerated such blatant acts of maleficence would scarcely be a system of biomedical ethics at all. The mistake, however, is to think that avoidance of harm and effectiveness in the sense of producing the best cure for malady is sufficient to guide their experimental programs. By contrast, the ordinary person, wants the assurance that the proposed applications are proper for human flourishing.

This precaution based on the monogenetic and polygenic distinction presumes too much with respect to the interdependence between the environment and the human genome. It incorrectly assumes that by introducing environmental factors into genetic explanations the old pursuits for a science of man as the metaphysical rationale of the eugenic movement have been sufficiently discredited. On this view, the task of the human sciences is to present a completely empirical understanding of human nature.³³ We have already seen that E. O. Wilson tried to reconstruct his conception through evolutionary biology and that B. F. Skinner built his understanding around behavioral psychology. The behavioral and life sciences may well enrich our understanding of human needs and purposes, but the error comes in a dogmatic insistence in thinking that scientific observation is the only accredited source of insight into human nature. Since human nature resembles theoretical terms, it is what Gallie once called an "essentially contested concept." This means that its meaning is relative to the entire scheme, and will,

³³See above pp. 48 ff.

therefore, be affected by other beliefs in that system. It is for this reason that existing alternatives are diverse in their interpretations, and it is a matter of no small debate to justify a particular conception. But, that there are such conceptions lurking in the background is a necessary requirement for medical ethics. This also means that empirical interpretation, too, will need to be defended independently of simple appeals to observational experience. This mistaken tendency is most evident among geneticists affiliated with the eugenics ethos. Yet that same tendency persists today because it was based on a philosophical scheme that is still recognizably intact, though with sophisticated qualifications.

Eugenics has long been associated with the attempt by early Mendelians to extend the single-gene inheritance model beyond its paradigmatic authority to scientific explanations for distinctively human qualities.³⁴ The insistence on continuing that dogma in light of mounting evidence for its simplicity has properly gained the recent censure of distinguished molecular biologists, such as Bernard Davis, who are prepared to call the entire movement "pseudogenetics." One finds initial agreement with Davis' observation that there are no geneticists "who would deny that we know that phenotypes are produced by genes interacting with the environment, and that both genetics and environmental differences are responsible for the observable differences

³⁴Laurence E. Karp, Genetic Engineering: Threat or Promise?, (Chicago: Nelson-Hall, 1976), p. 51.

in human beings."³⁵ But the interdependency thesis relied on here by Davis, and assumed by virtually all proponents of germ-line therapy, is wrongly assumed to have undercut the presumed "scientific" rationale for abuses of genetic technological control. The early Mendelian eugenicists, too, believed themselves to have been operating on the auspicious of respectable genetics, at least by the standards of their day. In the present situation, it is much easier for trained minds to detect those errors, but only because of a larger body of scientific knowledge, and with the aid of past cultural atrocities resulting from those who have strayed from the mainstream of accepted scientific rigor. But the task of discerning the differences between science and pseudoscience is not always straightforward, and regularly rests with extra-scientific beliefs. Today, the accepted model of human behavior has become one that includes causal factors from both biology and the environment. However, though the interdependency thesis permits explanatory factors other than genetic causes, it does not represent a radical shift in the conceptual scheme of earlier geneticists, rather, it should be understood as a recent qualification within the scheme. Hamilton Cravens, in a persuasive development of this theme, makes the point in his discussion on the evolutionary construction of human nature:

³⁵Marc Lappe and Robert S. Morison, Ethical and Scientific Issues Posed by Human Uses of Molecular Genetics, Annals of the New York Academy of Science vol. 265 (New York: The New York Academy of Sciences, 1976), p. 57.

This recent development does not mean that the ideal of a science of man has been surrendered; if anything, it provides strong evidence of a renewed call for its further application, and at most, a technical revision in the explanatory conceptions natural scientists use.³⁶

Davis, however, does not intend to apply the label of "pseudogenetics", to recent trends in eugenics theory which adheres rigorously to canons of scientific genetics. Daniel J. Kevles in his recent social history of the uses of genetics and human heredity elaborates on the philosophy underlying the renewed appreciation in the environmental affects on the human genome by a school of thinkers he calls "reform eugenicists." The older eugenicists did have many questionable and morally repugnant doctrines, but the line of continuity remained a commitment to the belief that in final analysis biology is a significant determinant in human behavior and well-being. To verify that hypothesis it was necessary to falsify the contradictory proposition that the environment significantly affected human behavior and well-being. In making that case, reform eugenicists sought to demonstrate that if performance of human capacities varied under presumably constant environmental conditions, this could be explained in terms of native ability. Given this assumption, it was not a difficult step in reasoning for biologists on the left, who were most committed to environmental causes of behavior to join suit.³⁷

³⁶The Triumph of Evolution, (Philadelphia: University of Pennsylvania, 1978), p. xii.

³⁷A cursory reading on the eugenics movement gives the impression that it was comprised of biologists who were committed to free market economics, but biologist with Marxists persuasions were also interested bettering human society. Moreover, genetic engineering would seem to have some appeal among socialist philosophers. Herbert Marcuse, in "A Biological Foundation for Socialism?" An Essay on Liberation (Boston: Beacon Press, 1969), describes capitalism as dysgenic. Through evolution, genes of competitiveness and aggression have been selected because such behavior is conducive to survival and reproduction in preindustrial and industrial societies. Those drives are now part of

Because of their egalitarian leanings, they merely broaden the hypothesis into a case for socialist reforms. Once a sufficient level of environmental constancy is achieved the biological differentials would be identified, and attention could then be devoted to them. On this view, ignorance of the genetic interaction with the environment in no way establishes a protection against future manipulation of human nature; it only occasions the need for a refinement in theory. Having reviewed statements by geneticists most outspoken on the importance of the environment in shaping human behavior, Kevles concludes that "for reform eugenicists of the left, measures of social melioration were by no means sufficient" in understanding human nature.³⁸ The stated ideal is to control natural differences through advanced techniques in human genetics.

Consequently, the fundamental rationale for the eugenics movement within the broader context of a research project aimed at constructing a science of man is the empiricist metaphysic, meager though it may be. That tradition continues to be quite pertinent to the discussion of gene therapy because it is the presumed view of most

our man's biological dimension. Science and technology play an important role in Marcuse's thinking. He refers to them as the "vehicles" of social change. He points out, however, that the goals of these vehicles must be redirected so that they can be used to usher in genuine freedom. To do this they must be redirected in accord with new sensibility and human needs (e.g. cooperation, and sociality) other than those currently being perpetuated by a conservative social system. Then one can speak of a technology of liberation, a product of a scientific imagination free to project and design the forms of a human universe without exploitation.

³⁸Daniel J. Kevles, In the Name Of Eugenics (New York: Alfred A. Knopf, 1985), p. 174.

molecular geneticists. Its influence is most evident in proponents of genetic engineering who seek to construct limits to legitimate genetic applications by merely citing the scientific barriers to predicting the consequences of manipulating the strand of DNA of an individual coding for a polygenetic trait. Any limits drawn on this basis are contingent upon the current standards for determining "well-supported" scientific theories. To be sure, these obstacles are monumental but they are not equivalent to moral limits on the purposes for manipulating human nature.

Finally, these barriers do not put to rest the important moral concerns with genetic engineering. It is clear that the current knowledge and technology will only permit genetic intervention in a small range of cases. Polygenetic traits are obviously not candidates for gene therapy now largely because they involve environmental influences. But what about the unforeseeable future? That is, are there any moral limitations other than contingent ones on changing human nature should the knowledge and technology become available? Should the United States government begin now to fund biomedical research that has this application as its aim? Questions about funding raise similar ethical questions as those that I have been discussing. The budgets for public health in many respects dictate future trends. In this sense, it is unconvincing for proponents of gene therapy to accuse the layperson of exaggerated concerns. It may indeed be true that the science and technology are undeveloped at this time, but most who argue in this "conservative" manner are also outspoken advocates of increased grants for investigating potential genetic interventions. But, would these

biologists who justify funding research and development on the basis of a more stringent rationale aiming at relief of pain and misery be willing, also, to commit themselves to an equally stringent justification for future possibilities, and to back up their commitment by writing legislation that would satisfy the narrow conditions of present applications? My questions, then, are more than rhetorical. In answering them, it seems reasonable to claim that consequentialism requires a comparison between different extreme cases whether or not they are technically possible at the present time. Furthermore, it is committed to taking a course of action, incremental though it may be, in accordance with whatever policy is dictated by the best outcome.³⁹

Precautions based on moral principles. John Fletcher argues that misuse of gene therapy will not occur so long as applications comply with basic moral principles. By misuse (or perhaps abuse), I take it that he means using gene splicing to enhance or significantly change the genotype (or phenotype) of biologically normal human beings.

Aims to increase, by biological measures, the capacity to compute or remember, to alter the sex ratio, or to add height to the range are hypothetical examples of eugenics and unacceptable, uses of gene technology. A justification based on self-realization would be needed to support such experiments, rather than arguments based upon relief of suffering or beneficence. Each proposal for a genetic experiment to improve upon the normal state would also be vulnerable to criticism by appeals to the justice principle. Why should precious resources be used to promote the interests of normal persons when so much remediable suffering exists?⁴⁰

³⁹This partly explains the Promethean ethos manifest in discussions on tampering with the human genome, like that given by Stephen Stich, which incites the deeply distressing sentiments of most sensitive minded people. In "The Genetic Adventure" Philosophy and Public Policy 3 (Spring 1982), pp. 9-12.

⁴⁰"Ethical Issues in Gene Therapy," p. 305.

There are several claims embedded within this abbreviated argument that provide the basis for claiming that his hypothetical examples of genetic applications are unacceptable. It will be helpful to unravel each one individually in order to assess whether it is sufficient by itself to place limitations on the sorts of genetic interventions that might be ethical according to the standards of contemporary bioethics.

Fletcher's claim that self-realization theories are in principle susceptible to misuses of genetic applications in a way that utilitarianism is not simply incorrect. A self-realization theory is one requiring that an individual actualize those capacities and potentialities that accord with one's authentic self. No doubt, self-realization theories, as we will see in the subsequent chapters, are vulnerable to his charge, but so are certain forms of utilitarianism. The Kantian system is paradigmatic of self-realization theories. Kant conceives of human beings as constituted by the rational, or real, self, and the sensible self, or the self of appearances. The rational self and only the rational self is the locus for moral respect. The theory is a self-realization system because an individual becomes real as he conforms to the mandates of a real self manifested through the eternal law of the categorical imperative. The autonomous person is one who acts out of reverence for the moral law which comprise the demands of the real self. Rational agency is solely to be respected as possessing moral worth. To be a rational moral agent is to possess personal projects or plans of life. These personal projects can be frustrated by the biological limitations of the sensible self. Therefore, changing the sensible self through genetic engineering would be a recommended

course of action. But, in principle, utilitarians reach this same conclusion as do Kantians. This is certainly true with respect to ideal utilitarians who treat certain mental states, such as memory or intelligence, as intrinsically valuable, and require that such experiences be maximized. But, most all utilitarians, as John Stuart Mill recognized, have always subordinated bodily experiences to higher experiences involving mental states. So, Fletcher is mistaken in thinking that misuses of gene therapy only require a justification based on self-realization.

By contrast, he maintains that arguments based upon 'relief of suffering' or beneficence will prevent misuses of gene transfer. He gives the notion of beneficence a narrower scope of authority in order to avoid the boarder connotation enjoining an action to improve a biologically normal individual. This underlying assumption, however, runs together two different sets of distinctions. The first is between evils and goods, while the second is the difference between preventing a deterioration in the level of well-being of an individual and improving the level of well-being in the individual. Childress and Beauchamp stipulate that the principle of beneficence includes duties to: (i) 'prevent harm,' (ii) 'remove harmful conditions,' and (iii) 'promote good.'⁴¹ One might think of this as a continuum moving from increasing to decreasing obligation. This latter duty to good is the feature that is the most far reaching in scope. It appears to have no place in Fletcher's list of duties. Elsewhere in his essay Fletcher restricts he meaning of suffering to morbidity and mortality. So 'suffering' is a

⁴¹Principles of Biomedical Ethics, p. 135.

value-laden concept tied fairly tightly to pain. This shifts the emphasis of beneficence from the promotion of some desirable experience or state of affairs to the avoidance of pain. In this, one can detect a shift in ultimate ethical principles. The question is whether he can sustain this position against mounting critical tendencies within utilitarianism. Fletcher is vulnerable to attack from a couple of directions. One is his implicit espousal of the principle of avoidance of pain as an ultimate ethical standard. (I will return to that later.) The other, which I will address, is to contrast his view with countervailing utilitarian trends in research ethics.

Fletcher's position is somewhat atypical for utilitarian bioethics. Daniel Callahan isolates three moral premises which enjoy wide appeal within the controversy over genetic engineering. All three affect the meaning and application of beneficence.

- (a) The principle of individual liberty, encompassing not only a right to be left alone, but also a right to seek that which one desires if there is no demonstrable harm to others;
- (b) the principle of risk-benefit analysis: in matters of uncertainty, risks and benefits are to be compared and moral action determined by the outcomes of the equation; and
- (c) the principle that it is always better to attempt to do good than to try to avoid harm.⁴²

Principle (c) shifts the emphasis of beneficence in the opposite direction from Fletcher's understanding. The ideal of improving the level of well-being of an individual creates serious difficulty because in a pluralist setting it is supposedly impossible to objectively justify

⁴²"The Moral Career of Genetic Engineering," Hastings Center Report vol. 9 (April 1979), p. 9.

proper human ends.⁴³ Principle (a) ties liberty to beneficence, which in turn supports the skepticism concerning proper human ends by implying that any narrowing of genetic applications would likely be seen as paternalistic. Principle (b) is the doctrine of utility which is already embedded within the concept of beneficence, at least in one popular reading of the notion, and requires that genetic techniques be used to bring about the greatest amount of value that defines an individual's life plan. These principles considered jointly place significant strain on the duty of beneficence; to such a degree that it certainly makes it doubtful whether any common-sense limits could be established. What is missing here is a conception within medical ethics that permits one to refer to beneficent actions affecting significantly human ends. That is to say, some sort of content that transcends individual wants. This would allow the bioethicist to judge which classes of genetic intervention benefit the individual patient, and to exclude all others.

Finally, Fletcher thinks that refuge against genetic abuses can be found by rigorously implementing the principle of justice. In the context of scarce resources, it is unwarranted to use this technology for improving the level of well-being of individuals. Following the present line of argument making explicit the conceptual inadequacy of consequentialism to prevent abusive genetic interventions of the sort from which medical geneticists seek to distance themselves, Fletcher's

⁴³Earl E. Shelp argues that "the human condition is such as to generate, even require, multiple notions of the good or the good life." It is by helping to bring about whatever people want that beneficence is conceptually linked to the principle of respect for persons. In "To Benefit and Respect Persons" Beneficence and Health Care (Boston: D. Reidel, 1982), p. 209.

shift from the consequentialist reading of beneficence to a deontological notion like justice only conceals incoherence that his normative theory faces. But even the feature of the principle on which he is relying may not be as reassuring as he might think. Scarcity of resources is contingent on the resources within a given society. A reliance on it for purposes of prohibiting certain types of genetic manipulations will tend to carry more appeal in poorer countries than in affluent nations. Short of rationing health care, this argument would not be very persuasive in the United States. At the very most, it might exclude the most outrageous applications if they are too costly, but there would remain an array of uses which would be morally questionable. Moreover, if genetic engineering is as promising as we are led to believe, it may very well be that more public funds would be reallocated to this area of research with the intent that after the technology was more developed, it would be more cost-effective, over the lifespan of the patient. Furthermore, allocation of scarce resources is a redistributive principle. This principle is purely formal; it says nothing about the legitimacy of the interventions requiring certain specific resources. Even if the distribution of gene therapy were consistent with the egalitarian, maximin, or just transfer principles, it would still have to justify which uses were judged appropriate for human applications. The principles of justice as they have been traditionally construed are indifferent to natural endowment,⁴⁴ including

⁴⁴I draw attention to Rawls' now controversial claim that "The natural distribution is neither just nor unjust; nor is it unjust that men are born into society at some particular position. These are simply natural facts." In *A Theory of Justice* (Cambridge, MA: Harvard University Press, Belknap Press, 1971), p. 102.

genomes expressing severely defective genes (though, interestingly enough, this feature embedded within the notion is itself currently under attack from those who divide the human condition along fatalistic lines of chance and necessity and who favor a social policy of abolishing the possibility of inequalities that happen as a result of the "natural lottery"). While Fletcher may think it is possible to limit current use to cases of excruciating pain and suffering, it is only because the circumstances are presently such that the benefits outweigh the potential harms. As the situation changes so will this justification. So then, formal moral distinction apart from a substantive appeal to human nature cannot measure up to common-sense protections.

Assurances based on the therapeutic/eugenic distinction. In a previous section, the point was made that the social phenomenon known as the eugenics movement is historically associated with the origins of human genetics. The word eugenics, first used by Francis Galton in the latter part of the last century, is derived from its Greek root meaning "good in birth" or "noble in heredity." It is natural therefore to seek to distinguish medical uses of human genetics and eugenic uses of genetics. The two activities, however, are not easily distinguishable, and consequently, most distinctions will be vulnerable to serious attack. Part of the problem, of course, involves the meaning of therapeutic and eugenic applications. The other part concerns the ethical evaluation of those meanings. Neither of these difficulties are easily settled, and I shall not do so here. But I want to draw atten-

tion to what I think are some of the key conceptual and ethical problems, and then tie those into the overall theme of this chapter which is to show the difficulty that consequentialists have in setting limits on genetic interventions.

Rather than characterizing eugenics sociologically as essentially a social or political movement that has now fallen in disrepute, I have attached it conceptually to the scientific history to explain human behavior exclusively in empirical categories; a motif that I think is still central to the general scientific ethos. Thus, the misuses of science in the early decades of this century are "accidental" in relation to the essential thrust of the eugenic frame of mind. While science can be and is misused for ideological reasons, such improprieties have been carried out by Social Darwinist, Liberals, and Marxists alike! That is because applied science is intended to be applied, and consequently needs direction. That guidance whether in political ideologies or medicine is significantly influenced, if not determined, by competing conceptions of human nature. However, this is not typically the way eugenics is characterized in public policy discussions. The OTA report, for instance, juxtaposes several contrasts between genetic treatment and eugenics:

The distinction between gene therapy and eugenics rests on several different points. Gene therapy involves the informed participation of patients who suffer from specific disease, while eugenics involves social programs, sometimes involuntary ones, focused on general human traits. Gene therapy is intended to benefit a particular individual, while eugenics is intended to improve the human general (or, often, national) population. Gene therapy is directed

at correction of symptoms due to genes known to cause disease, while eugenics often dwells on polygenic traits whose genetic components are controversial, and whose expression is poorly understood.⁴⁵

From the content and tenor of these contrasts one infers that genetic manipulation is ethically acceptable so long as its uses have a substantial scientific basis, and are subscribed to voluntarily by individuals fully appraised of all the facts. Each of these contrasts have a historical basis in the American experience with eugenics, but even considered jointly they miss much of the subtleties involved in the notion of eugenics, and seem to give defacto permission to any number of other activities that do not fit into this characterization.

Polygenic traits affecting mental and personality traits that might be considered desirable to augment human capacities may not at present fall into the purview of ethical scrutiny, but what about genetic techniques that are likely to satisfy scientific standards, for instance the predetermination of a child's sex? Would this application be considered eugenic? The OTA description implies that there is nothing wrong in principle with controlling natural processes that affect significantly human activities. Furthermore, the contrast between the individual's interests and the interests of society or the species ignores the point that eugenics can take on a democratic flair so that individual choices made voluntarily and based on the best available scientific information can still be eugenic in the strict

⁴⁵Human Gene Therapy--Background Paper, p. 16.

sense of improving the human gene pool. Heeding the lessons of the Nazis concentration camps, and hoping to prevent the eugenics enterprise from being discredited, Frederick Osborn writes about his program of the new eugenics in his Preface to Eugenics.

We cannot tell the heights to which any man may rise, until he meets the particular opportunity appropriate to his unique possibilities. . . . When Personal freedom is denied, and the attempt is made, by enforcing a rigid environment, to form men in a common mold, individual variations are repressed and men lose their power of choice, tending to be pawns in the hands of circumstance. Eugenics, in asserting the uniqueness of the individual, supplements the American ideal of respect for the individual. Eugenics in a democracy seeks not to breed men to a single type, but to raise the average level of human variations, reducing variations tending toward poor health, low intelligence, and anti-social character, and increasing variations at the highest levels of activity.⁴⁶

Anyone familiar with public policy knows that carrying out eugenic policies can be made fully compatible with the "American ideal of respect for the individual." If eugenics is only thought to be unethical because it violates respect for individuality and voluntary action in accord substantial experimental evidence for safety and effectiveness, then the only harm that merits prevention is injury to the human will. Thus, in its newly revised form it is difficult to understand how eugenics can be abhorrent to secular bioethicists.

Conclusion

To sum up, then, I began this chapter by observing that the "standard" rationale for justifying biotechnology in terms of whether their applications advance significantly human ends has been supplanted by the consequentialist argument that seeks to justify therapeutic

⁴⁶Cited by Daniel J. Kevles, In the Name of Eugenics, p. 175.

interventions in terms of the disproportionate balance in favor of benefits over risks. The critical focus of the "standard" approach is directed at intentions for acting in certain ways by examining the ends. The consequentialist approach is more concerned with the consequences flowing from actions directed at producing the desired state(s) of affairs. While this shift in strategy has the advantage of avoiding explicit metaphysical disagreements over human nature the change in orientation comes at a price. In the debate that ensues a certain pattern has emerged. The common-sense person objects that consequentialism fails to establish safeguards that will protect the dignity and inviolability of human life. The consequentialist responds in kind by citing a variety of assurances for protecting the sanctity of human life. On close analysis, however, each of these provisions is found inadequate because they are either based on a misunderstanding of the common-sense concern; contingent conditions surrounding the current state of knowledge or technology; or make implicit references to consequentialist reasoning. In either case, the common-sense retort is to correct the misinterpretations; to point out the important distinction between moral limits and assurances; or to accuse the consequentialist of begging the question. What the ordinary man seeks are moral restrictions to genetic manipulations are consistent with significantly human aims and activities. Consequentialism cannot deliver that sort of guidance to science. The consequentialist strand of thought running inherent to their assurances rests on the central logical tenet to place primary emphasis on outcomes. The difficulty for consequentialists to set limits on genetic intervention is fundamentally linked to its

central logical requirement to maximize (or minimize) the experiences of desirable states of affairs. That, however, is not the only problem. There is still the need to examine other ways to talk about limits to genetic intervention. These avenues involve the nature of valuable experiences worthy of being maximized, the alternative approach of establishing side-constraints, and underlying conceptions of human nature. These problems will be considered in the next chapter.

Chapter 7

A CRITIQUE OF THERAPEUTIC UTILITARIANISM:

ALLEVIATING SUFFERING AS THE RATIONALE

FOR GENE THERAPY RESEARCH

The position we have arrived at is that the consequentialist justification has logical difficulties that prevent it from satisfying common-sense limits to genetic interventions. To this claim the scientific consequentialist will no doubt raise the objection that limits are determined not only by the logical constraints of the normative system, but also by the ethical values involved in determining the desirable states of affairs that biomedical research might properly pursue. When assessing the biotechnology of an innovative therapy the consequentialist considers first what course of action would best alleviate human pain, whether it accrues to the individual, or is the unimaginable sum of misery credited to humankind, and second the social impact from routinely applying the biotechnology. The focus of this chapter is on those assumptions that support the first step. It is at this level that the standard medical paradigm of care for the subject-patient is introduced in order to justify research into a medical therapy. In the latter part of the chapter, I explore an alternative approach to setting limits on genetic intervention by treating respect for human life as a side-constraint on genetic intervention. To begin that discussion I

need to introduce a position I will be referring to as "therapeutic utilitarianism (TU)," which is a specific form of consequentialism related to the form generally described in political and ethical theory as negative utilitarianism.

Therapeutic utilitarianism and its forms

The best way to begin this discussion is to introduce TU by relating it to a similar method that is used in political theory. Negative utilitarianism (NU) is the view that all pain and suffering are intrinsically evil and ought to be minimized to the greatest possible extent.¹ This doctrine is also reflected in the goal of biomedical research, which according to W. French Anderson is "to alleviate human suffering."² NU is also a theory devoted to evaluating the social consequences of collective actions, rather than the consequences that impact on the individual. Within the medical context, however, the structure of NU shifts its attention and directs the focus of analysis on the relief from pain and suffering that occurs to the individual subject-patient. This theoretical adaptation of negative utilitarianism is another feature that gives TU its distinctive form. The shift in focus can even be put more strongly. The medical viewpoint is to give a strong priority (almost amounting to exclusive attention) to the needs of one's patient and to leave social implications to be dealt with by

¹J. W. N. Watkins, "Negative Utilitarianism" part II The Aristotelian Society 37 Supplement (July 1963), p. 96.

²"Human Gene Therapy," The Journal of Medicine and Philosophy 10 (August 1985), p. 278.

others.³ These basic descriptions underlie a number of alternative accounts of TU with each trying to capture the force of this negative principle, while at the same time directing its application to the individual patient:⁴

- (a) Following R. N. Smart's characterization of Karl Popper's negative utilitarianism stipulating that the avoidance of pain and misery is the ultimate ethical principle. The promotion of good is morally virtuous but not required.⁵

³The same point was made from a different perspective in chapter four in dealing with the tendency toward a certain form of individualism that persists within contemporary bioethics, and one that is consonant with the broader social and political themes of the permissive society, p. 104-111.

In the clinical setting, the standard medical paradigm is strongly individualistic in the sense that the tendency is to insulate the patient from all social influences. There is this caveat: in certain situations the family is consulted (e.g. cases involving incompetent patients) whereas in other cases the family's moral beliefs are excluded from consideration altogether (e.g. pregnancy counseling). In the context of research, the beneficiary is not typically a single individual subject but is generally the human community. Research into novel technological therapies might alter that intent so that at the moment of human applications it is possible to say that benefit to an identifiable subject is the primary intent. The scope of people affected by research into a therapeutic technique is important since it determines the range of considerations in terms of units of pain and suffering that can be counted.

⁴In classifying the alternative accounts below under TU, I have departed from the ideosyncratic form of minimizing utilitarianism which holds that our only duty is to relieve unhappiness. Increasing happiness is morally right, but it is not morally required. Ordinarily, classical utilitarianism does not alter the weighting of consequences resulting from promoting good. Its intent is only to set limits to the category of moral obligation. For a statement that interprets John Mill in this manner see Rem Edwards, "The Principle of Utility and Mill's Minimizing Utilitarianism," The Journal of Value Inquiry 20 (1986), pp. 125-126.

⁵Mind 67 (1958), pp. 542-543.

- (b) Following Stich's "harm weighted principle" where the avoidance of pain and misery is weighted more heavily than the promotion of good in order to reflect its urgency. But the positive principle of promoting good is still to be considered even though it carries less weight than the negative principle.⁶
- (c) Following Childress and Beauchamp's lexical ordering of ordinary intuitions regarding the urgency of pain, so that the avoidance of pain and misery is to be restricted to the notion of 'inflicting or causing pain' and treated as a separate principle (i.e. non-maleficence) from the positive principle which denotes other levels of 'preventing pain,' 'removing pain or painful condition' and the 'promotion of the important and legitimate interests of the patient when it can be done with minimal harm to the benefactor.'⁷

With respect to TU as it figures in medical research, there is some ambiguity as to whose pain or suffering is to be minimized. This situation is further complicated by whether or not the medical geneticist is justifying a broad research project or an application to an individual subject patient. The justification of a research project will appeal to the minimizing the generalized amount of human pain. This generalized focus is thought to be necessary in order to offset the amount of pain brought unavoidably into the world as a result of unperfected techniques and lack of scientific knowledge required to predict and control the consequences that flow from the intervention. The reality of this happening in the earlier stages of a research project is obviously greater than after the data has been collected from numerous experimental applications which can provide additional guidance for subsequent interventions. The problem often ignored, however, is that the appeal to the sum total of human pain as a justification for a research project distorts the weight that should be given to other important ethical values.

⁶Steven P. Stich, The Recombinant DNA Debate

⁷Beauchamp and Childress, Principles of Biomedical Ethics

The sum total amount of pain that might be relieved if a research project were to go forward is in a certain sense unimaginably hypothetical since certainly that composite pain is not, could not be, nor has been experienced in any patient's consciousness. Therefore, the scientist when carrying out risk assessment must be cautious in "describing" the amount of pain in the universe. The reality of individual human suffering is in many cases horrible enough so that the addition of a faceless multitude of fellow-suffers adds no more pain to be weighed in the deliberations.⁸ One implication of this line of reasoning is that the argument from relieving future pain can indeed be overridden in complex cases where other important ethical values and beliefs make up part of the situation. The justification for a research project should not be confused with the justification for a specific application of gene therapy. Judging the merits of a research project requires at a minimum that the ethics of the means for acquiring the knowledge be weighed along with the ethics of the ends, and potential applications of the knowledge. There is a difference in justificational approaches. On the question of justifying an application, the ethics of the means for acquiring the knowledge has been judged acceptable, consequently the

⁸This point is germane to the discussion because the literature on gene therapy is replete with statistics about the number of births each year with serious genetic disorders. Almost every discussion intended to be doing "descriptive" risk assessment is prefaced by elaborating on the cumulative human pain caused by genetic diseases. Eve Nichols, for instance, begins her book by reporting that "As a group, genetic disorders affect about 5 percent of liveborn infants in the United States"; Human Gene Therapy (Cambridge: Harvard University Press, 1988), p. 3. While statistical concerns are part of the intent for citing these figures, my position is that there is also an evaluative aspect to these descriptive statements which unduly supports TU claims. It is the covert evaluative meaning that I am challenging.

attention can be focused primarily on the uses. With respect to justifying an application of genetic knowledge, reference is obviously made to the relief from pain that has a high probability of accruing to an individual patient. Both of these justifications, however, rely on the argument from relieving pain. Accordingly, this affects the deliberations of experiments that take place on subjects who possess no capacity for experiencing pain (e.g. human embryos).

Before proceeding I must distinguish between two senses of the word "pain." This will be helpful in understanding the scope of authority that the justification from pain commands with respect to gene therapy. The meaning of "pain" frequently used in bioethical justifications refers to a particular kind of sensation, conveyed by specialized nerve fibers and affected by certain physiological processes recognizable to the patient as a state of consciousness that is disliked. It is a sensation that is localized within the body; for instance, a pain in my tooth, or ache in my side. The other sense of pain connotes displeasure, any experience, whether physical or mental, that the patient dislikes. This second sense is synonymous with "suffering," "agony," "anguish," "tribulation," or "adversity." It is important to take note of these two senses because they can be easily confused; a justification premised on the narrow sense might come to encompass the broader intangible rationale. But this line of reasoning rests on a fallacious equivocation in two quite different senses of "pain".

There is some common-sense support for attaching significance to the alleviation of pain and suffering. The urgency associated with this dimension of the human predicament can be observed from our attitudes and practices. We ordinarily do opt for helping to relieve some-

one in distress before we take action to promote someone's well-being. Likewise, although consequentialists frequently complain that the failure to act is merely an alternative type of action in disguise, that complaint merely betrays a deeper shared conviction that inflicting pain is far worse than refusing to bring about a state of affairs accompanied by undesirable side-effects. In the same vein of thought, refusing to bring about relief is more reprehensible than refusing to promote an individual's welfare. There is even a strong urge to take exception to the otherwise entrenched common-sense principles (e.g. truth-telling, promising, and respecting human life) in cases involving abnormal, painful, and improbable circumstances. These asymmetrical relationships between avoiding pain and bringing about good are compatible with TU in a way that is not accounted for by classical utilitarianism. On that view, both the negative and positive principles have the same weight, consequently, all things being equal, they cancel out each other.⁹ But within TU the minimizing condition is given much greater importance so that only the outcome with the least amount of pain is to be ethically favored.

The traditional conscience, however, also recognizes that the source of pain alters the sense of importance ascribed to it. There are a number of instances where pain is thought to be instrumentally beneficial even though this belief runs contrary to the consequentialist efforts to minimize the pain and suffering in the world. Chest pains for a smoker might indeed be the only way to get the attention of the

⁹This thesis is developed and defended by A. D. M. Walker, "Negative Utilitarianism" *Mind* 83 (1974), pp. 424-28.

individual to take better care of one's health. It can even be said that pain and suffering may have a tutorial value, such that they actually have a positive value though not intrinsic. And to those who retain at least some natural piety as a basis for their common-sense beliefs, it will be thought that human pain serves as a reminder of the limits of self-sufficiency. I shall need to return to this point again when I take up the justification for extended uses of gene therapy. As we will see, relief from pain caused by the inability to carry out individual aims has a normative weight that is not necessarily equivalent to that given to relief from pain construed strictly in terms of a sensation brought about by the stimulation of nerve fibers. Yet these common-sense beliefs will no doubt be viewed by utilitarians as confused. And surely these comments on the common-sense reaction to self-induced pain do not reach the gravity of an innocent child afflicted with a debilitating genetic disease. With this I concur. But what we are concerned with here is our evaluation of pain in relation to the sensation experienced. Bearing this in mind, my point has been to argue that it is at best controversial to claim that a state of affairs with no pain and suffering, or no more than the minimal amount, is to be valued for its own sake.

The advantages of TU make it an attractive approach for justifying germ-line gene therapy. Fletcher, for instance, vigorously defends both body-cell and germ-line gene therapy by advancing the position that relies on the negative principle of avoiding pain and misery.

In response to the second assumption, it can be argued that morally relevant lines can and will be drawn prior to uses of gene technology. . . . In my view, the most relevant moral distinction is between uses that may relieve real suffering and those that alter characteristics that have little or nothing to do with disease.¹⁰

He takes "real suffering" to mean morbidity and mortality. "A condition," he further explains, "that so dominates lives as to keep them in various degrees of imprisonment, plagued by pain and foreshortened lives, should be relieved in the interest of the well-being of the persons involved."¹¹ In these remarks, it is clear that he holds a form of TU. An action is right if it is conducive to or consists in minimizing actual pain.

Fletcher, moreover, uses TU as a way of justifying germ-line therapy by separating medical and eugenic uses of this biotechnology.

The conclusion that germ-line gene therapy in humans should be banned is also based upon a faulty premise. Again, a particular experiment is defined as the moral problem accompanied by exaggeration of the danger of current animal experiments to societal values. The proposal for a ban directed to the Senate draws a line between somatic cell therapy and germ-line research. A better line is between curative or preventive gene therapy and eugenic uses of germ cell alterations.¹²

For Fletcher, medical ends whether curative or preventive aim at states of affairs that minimize pain of the subject-patient, whereas eugenic ends seek to maximize happiness either for the individual patient-

¹⁰John C. Fletcher, "Ethical Issues in Gene Therapy," The Journal of Medicine and Philosophy 10 (August 1985), p. 303.

¹¹Ibid.

¹²Ibid., p. 304.

subject or for society as a whole.¹³ Bearing in mind that the ultimate ethical principle of therapeutic utilitarianism is to minimize the amount of pain and misery that the individual subject-patient experiences, it is difficult to perceive a morally discernible difference between body cell and germ-line interventions with respect to the presumed beneficial results that accrue to the individual. If effective, they both would cure, or at least ameliorate, pain and misery. Indeed, germ-cell therapy might be more effective, and thus, be preferable on this score. Given this framework, it is easier to understand why Fletcher, as well as some bioethicists and molecular biologists, are dissatisfied with current public policy distinguishing between body cell and germ-line interventions. Consequently, any distinction prohibiting germ-line as a therapy for the individual will seem irrational.

The doctrine would be unclear if only suffering were involved since minimizing suffering would only be an alternative means of producing happiness. But in negative utilitarianism, something quite different is going on: the conceptual shift results in placing importance,

¹³Unfortunately, Fletcher's position is vague on this very crucial point. He does not specify which of the disjuncts figures into his definition of eugenic ends. My characterization is an interpretation, but one which I believe is fair because eugenic aims, as I have argued above pp. 213-222, can be framed from either the individual or social point of view. My sense is that Fletcher would probably favor treating eugenics as a social consequence, thus, conveniently excluding it from the utilitarian calculation based on a strict reading of the medical model of ethical deliberation that considers only the effects on the individual. But that will not preclude eugenic considerations because these same concerns can be recast from the perspective of the individual. For instance, instead of talking about society purifying its gene pool by terminating the genetically defective unborn, one can simply recast the argument in terms allowing a wrongful life to be born.

and in some forms exclusive importance, in the avoidance of harm rather than the promotion of benevolence. As noted earlier, this form of utilitarianism has advantages as a medical decision procedure, even though it will be suspect since in social contexts its proponents have offered it as a strategy for piecemeal reform.¹⁴ But there is, of course, a good deal to recommend this approach. For instance, in many cases the motive behind therapy is to alleviate pain and ameliorate misery. Both medical geneticists and laypeople, moreover, can more readily agree what are palpable disorders that should be avoided than what are healthy conditions that should be promoted. Thus, in pursuing beneficial a policy of TU, there is much hope for broadening the consensus and promoting co-operative efforts among members of the society. These are no doubt the advantages that Fletcher and others have seized upon in making it their basic principle in biomedical ethics.

A Critique of Therapeutic Utilitarianism

By way of review, one must always bear in mind that the therapeutic utilitarian, if consistent, requires as the standard of obligation that a duty is an action that minimizes the amount of pain and suffering. By contrast, common-sense morality maintains non-consequentialist principles that do not judge a given action to be ethical solely on the basis of the consequences produced by it. In practice, however, common-sense almost always dictates that policy which

¹⁴Karl Popper, The Open Society and Its Enemies, 5th ed., (London: Routledge and Kegan Paul, 1966) vol. 1, ch. 5, note 6.

minimizes pain and suffering, once all the options are presented.¹⁵ This choice is made for non-utilitarian reasons. There are cases where the non-consequentialist departs more or less radically from the standard of avoiding pain because minimizing pain involves certain means that are morally abhorrent. In these circumstances, the common-sense position is generally to reduce rather than minimize pain and suffering. The typical move in this case is to turn to the technological means to create other alternative interventions. This will also be true even if the technologically contrived means are on the whole ethically more acceptable but more costly. This strategy for reducing misery and pain follows from background beliefs about human nature that shape the logic of common-sense morality. The point to bear in mind, however, is that in some situations, certain actions will be ethical even if they do not always relieve as much misery as alternative courses of action. The common-sense position is obligated *prima facie* to reducing pain, but not necessarily to minimizing it. It is important to stress this conceptual point because it is tempting for utilitarians to claim exclusive rights to compassion and beneficence and thereby exploit the pain and misery associated with genetic diseases as a justification for promoting further experimental research that is ethically controversial. The common-sense critics can level this charge only if they ignore other ethical

¹⁵Some non-consequentialists might argue that there is only a presumption favoring the option(s) conducive to producing the minimum amount of pain. But the presumption favoring utility may be overridden by more important considerations. There may still be a divergence in positions between the non-consequentialist and the common-sense moralist at this point. The reason for this is that non-consequentialism is a logical doctrine, whereas common-sense is a substantive position that relies on the non-consequentialist doctrine.

considerations that the ordinary person takes to be overriding. The common-sense claim being made here states that minimizing pain might not always be the compassionate course to follow. In some circumstances the controversy arises because the common-sense moralist is content to reduce rather than minimize pain and suffering because other more important, moral values are in conflict and must be weighed. A good example, as we shall see, is moving from somatic gene manipulation to germ-line manipulation. Bearing these remarks in mind, there are several responses to TU that are worthy of mentioning.

(1) The implied dilemma of non-consequentialism. The same goal of minimizing pain is applied within research medicine. In the case of gene therapy, it is commonly asserted that the goal of this therapy, as well as any biomedical research is, as Anderson says, "to alleviate human suffering."¹⁶ The pattern of thought that follows is to establish a set of minimal provisos for safeguarding a high probability of safety in protecting the patient-subject. Having established those, Anderson makes the normative claim that any delay of, or refusal to engage in, human trials is unethical. The ethical charge assumes that failure to act is itself a disguised action that is indifferent to existing human pain. The connection of the aim of biomedical research with this ethical judgment jointly implies TU. This line of reasoning is then extended to applications of germ-line gene therapy (albeit with a stress

¹⁶Anderson, "Human Gene Therapy," p. 278.

on ample safeguards, further qualifications,¹⁷ and a reminder that such biotechnology is unavailable in the foreseeable future). When that future day arrives, however, it will be perfectly ethical to engage in such interventions, and unethical not to apply germ-line therapy.

The set of arguments that move to this conclusion is quite forceful because it implies a dilemma for the would-be dissenter. Either one must accept the utilitarian line of reasoning with all the conclusions it dictates, or one must acknowledge moral complacency toward pain. In all of this, the unspoken, but ever present, premise is that the right action is the one that conduces to, or consists in, the state of affairs that alleviates the most misery. But this is precisely the premise being disputed; this attack on non-consequentialism begs the question to assume its validity to criticize the common-sense point of view. Once it is made clear that the ethical thing to do need not be defined in that manner, the stage is set to resist consequentialist pressures.

Perhaps it will be helpful to make the point in a different way. The problem with this strategy to discredit the common-sense morality is that it confronts the bioethicist with a set of false alternatives. It simply is not the case that one who rejects therapeutic utilitarianism thereby acquiesces in human pain. Non-consequentialism simply asserts that the ethical action need not always produce the optimal state of affairs defined as the least amount of pain. The reason for this position is that this duty is overridden by higher obligations or mitigated by other equally important considerations.

¹⁷See Fletcher, "Ethical Issues in Gene Therapy," pp. 297-99.

This makes justifying germ-line intervention much more complicated, but such complexity is not unique to common-sense morality. As we have seen, consequentialism likewise engages in a sophisticated defense of germ-line manipulation to ward off the "slippery slope" arguments used by the ordinary person. In giving a complete justification for tampering with germinal material, consequentialism also makes reference to a number of factors which singly or jointly are presented as part of the justification. In most practical contexts, it is perfectly compatible with a non-consequentialist ethic to select that state of affairs which avoids the most pain even when one is not obligated to do so. Ordinary morality has a notion of utility, and much of its pattern of thinking is to follow a mean-to-an-end routine, even though the whole of its values are not explained in terms of or reducible to it. This is, no doubt, part of the common-sense rationale underlying somatic cell therapy in many instances, and certainly for those disease candidates now under consideration. Yet as is the case for non-consequentialist normative decision-theory, there will be mitigating and independent considerations to weigh, and the convergence of these may lead the non-consequentialist to finally approve or disapprove a given form of genetic therapy on non-consequentialist grounds without being inconsistent. Chief among these considerations for common-sense bioethics is whether research into this new therapy is appropriate for human beings. It can scarcely be denied that one of the most persuasive arguments favoring utilitarianism is the charge against many non-consequentialist theories alleging that they are heartless in their toleration of pain which would have been prevented on utilitarian principles. At this point, however, the dilemma has satis-

factorily been dissolved, for non-consequentialism will in most cases recommend the option with minimal pain, even when it is not obligated to minimize pain. It is not heartlessness to resist the utilitarian pressures to always choose the option that alleviates the most distress if other principles equally important point in a different direction. Heartlessness in this situation is a charge that can only be made by someone who holds that avoiding pain and suffering is the single most important value. That, however, is the issue being contested.

Any counter to this fundamental conviction of TU that all human pain is evil will immediately be rebuked by the heirs of the modern biotechnological age who are optimistic that medical technology should design a world in which human pain is no longer the price for lasting satisfaction. The alternative proposition would be that some pain may indeed be a necessary reality which is genuinely part of the human condition. According to the common-sense approach only unnecessary pain is evil. The ethics of modern medicine has within it a built-in tension. On the one hand, clinical practice aims to care for patients by helping them cope with their condition; this suggests that some pain has positive value. On the other hand, the ethics of medical research appears to demand a scrupulous pursuit after manipulations that promise to help human beings transcend their own biological estate.¹⁸

¹⁸Frederick Prescott asserts: "Take away the diagnostic value of pain and many diseases of acute onset could not be diagnosed at all. But once the diagnosis has been made it is the duty of the physician to relieve pain"; The Control of Pain (New York: Thomas Y. Crowell, 1964), p. 137.

Pain results from natural processes in the body governed by its own set of laws. Suffering, too, is related to those natural processes through the constraints on carrying out human aspirations imposed by our biological constitution. The ordinary person acknowledges that pain can have some positive or redemptive value (e.g., acute pain has diagnostic value). I noted previously that TU distorts the evaluation of pain by talking about "the sum total of pain in the universe" as though that were a sensation that could be experienced in a single individual consciousness. This was rejected as a meaningless way to talk about the reality of the human condition. As it stands, such beliefs about the inherent disvalue of pain and its cumulative nature are metaphysical in character. It is a quasi-religious claim that can only be met by taking recourse to an alternative metaphysical scheme which counters this naturalistic pessimism. The nature of the argument leaves no other line of reasoning.

There is no reason to digress into a detailed discussion on the ultimate meaning of human pain. But it should be observed that it is a problem not only for the ordinary person but the scientist, as well. Pain is a shared reality with which everyone must intellectually and existentially come to grips. In this vein, the significance of human pain is conditioned by the way we think about it. C. S. Lewis gives a lucid account of the theistic response to gratuitous natural evil. Although it is a religious interpretation, this type of explanation has come to reflect the characteristic stance of the ordinary person who thinks philosophically about the problems of pain and suffering.

The inexorable "laws of Nature" which operate in defiance of human suffering or desert, which are not turned aside by prayer, seem at first sight to furnish a strong argument against the goodness and power of God. I am going to submit that not even Omnipotence could create a society of free souls without at the same time creating a relatively independent and "inexorable" Nature.¹⁹

It might further be argued that unknown numbers of genetic mutations that lead to genetic disorders regardless of the natural laws by which they are inherited are partly caused by an environment that is the product of human artifact. By contrast, many biologists are naturalists, or at least sufficiently informed by naturalistic philosophical beliefs. Naturalism may be in some instances too explicit of a label to ascribe to proponents of germ-line therapy, but with respect to the attitude toward pain and suffering, these experiences tend to indicate that all pain is bad because it is pointless. From this premise, it is only a short distance to the conclusion that the physician has a duty to alleviate pain, where "alleviate" means directed toward a state of affairs with the least amount of pain possible. However, to the extent that the common-sense perspective persists in being influenced by traditional religion, this orientation is fundamentally at odds with naturalism. There can be no doubt that the current disease candidates have an adverse effect that is in actuality gratuitous. But common sense, even with its theological underpinnings, is compatible with this outlook as long as it is not committed to the belief that an omnipotent, omnis-

¹⁹C. S. Lewis, The Problem of Pain, New York: Macmillian Press, 1962), p. 29.

cient, wholly good God would prevent or eliminate the existence of gratuitous or pointless evils.²⁰ Only by admitting that there are some gratuitous evils can the common-sense person begin to work against the concrete occurrence in human beings. Gratuitous pain is a fact of common human experience. Perhaps much of what the religious mind initially considers to be pointless pain can be reinterpreted so as to show that it fits some ultimate divine scheme, but to claim that all these experiences will conform to a plan, known or unknown, is to assume an unacceptable kind of religious skepticism regarding the veracity of our ordinary experience in the world.

Belief in a providential order in which all pain is only apparent can affect one's attitude toward human suffering. Simple-minded believers are sometimes accused of such indifference to pain and misery, but this may have more to do with the nuances of their theological orientation than with their general theistic orientation. This, too, reflects the observation that conceptual commitments condition the range and quality of experience. Adherence to a fastidious providence might very well predispose some believers toward a certain insensitivity regarding human misery. But a comparable difference can be discerned in the medical researchers general orientation toward pain. It should not escape notice that any naturalistic metaphysic must take into account that raw sensation needs to be interpreted, and is therefore subject to moral infusion into the interpretation. Thus distinguishing between avoidance of pain and eugenics would appear more open ended than initially thought.

²⁰The defense of theism that is not built on a principle of "meticulous providence" is taken up by Michael Peterson, in Evil and the Christian God (Grand Rapids: Baker Bookhouse, 1982).

(2) TU's humanitarian appeal. One might also doubt that minimizing pain is always as humanitarian as one might initially think. R. N. Smart discusses several examples of applying the doctrine, which are arguably fanciful and hypothetical in the political setting, but have startling ramifications in the medical context.²¹ The cases he refers to pertain to infanticide and abortion. He argues that consistent application of NU would assign a benefit to the painless killing of people. This is because "it is empirically certain that there would be some suffering before all those alive on any proposed destruction day were to die in the natural course of events." Painless killing would be justified as the right course of action because it is conducive to the state of affairs that minimizes pain and misery. The broader considerations of avoiding the total aggregate of pain and misery do not militate against his argument. For while it is quite possible that the loss of a loved one will result in increased pain and grief from family and friends, Smart argues that these responses are irrational according to NU standards, since the pain and suffering of the loved one is forever eradicated. Similarly, the likelihood of impoverishment of the family occasioned by diminished income is not inherently bad as long as it is controlled so that the total state of affairs does not result in increased misery. Accordingly, while it is true that a society which tolerated the taking of life would risk eventual disintegration, the considered response by negative utilitarians would only oblige the society to regulate certain practices rather than completely prohibit

²¹R. N. Smart, "Negative Utilitarianism" Mind 67 (1958), pp. 542-3.

them. He concludes, as I think most would, that "NU will be unconvincing wherever we are concerned with the cutting-off of life;" moreover, "any clarity it brings to ethics is bought at the expense of allowing certain absurd and even wicked moral judgments."

Similarly, the ultimate ethical principle of TU is compatible with attitudes and practices that are surely abhorrent to any sensitive conscience. In thinking through the TU logic as it applies to the various forms of gene therapy, one must bear in mind that genetic "fix" means that the benefits are balanced against the harms, and not necessarily that the remedy will completely eliminate all pain and restore the patient to health. That, of course, is the ideal, but it is not required in order to justify the genetic intervention. Accordingly, if the utilitarian restricts the scope of considerations to the individual patient, and rigorously seeks to minimize pain, the most consistent course of action to follow in many situations is not somatic cell genetic intervention, but termination of life.²² The logic here would be the same as that offered for aborting a genetically defective fetus, or withholding life sustaining treatment from a neonate. In the case of the genetically defective fetus, it is a future life of pain that is cited as the warrant for terminating life. With regard to withholding treatment from the new born, it is the combination of actual and future pain that is used to justify termination of life. If the utilitarian calculus is widened to include the pain suffered by family or relatives,

²²Rem Edwards concurs with this assessment in "The Principle of Utility and Mill's Minimizing Utilitarianism," The Journal of Value Inquiry 20 (1986), p. 133. Unfortunately he equates NU with only that view which holds avoidance of pain as the ultimate ethical principle.

a similar conclusion, arguably, still results. The objection that the family would suffer psychologically from ending the life might suggest a countervailing consideration, but it also argues for encouraging the family to undergo psychological counseling to help them see the irrationality of their responses and to accept the loss of the suffering loved one with joy and gladness. One might object to this line of reasoning by claiming that the total effect of the distress to the family at the death of the child outweighs the pain suffered by the patient if the child is kept alive. But the parents' inner torment at the loss of a suffering child is usually made to tell the other way. As the continued criticism of "Baby Doe" regulations suggest, at least some of the medical community believe that some parents attach more significance to prolonging the apparent painful existence of the newborn than to their own pain at the loss of their child. At the very best, this objection only requires that these instances need to be judged on a case by case basis. There is sufficient reason to think that rigorous TU analysis of children with severe genetic defects indicates that the life should be terminated rather than a prescription for body cell gene therapy.

If we shift the focus to germ-line research, one gets a different answer.²³ In the context of germ-line manipulation, the avoidance of pain as it may occur at the present moment argues unequivocally

²³Deliberations on germ-line intervention are complicated by the absence of tests to identify defective embryos. Thus all embryos that are conceived by at-risk parents will be treated as though each embryo expresses the genetic defect. In actuality, however, some embryos will be genetically healthy. For recessive disorders, one out of every four embryos conceived will be healthy, while two in four will be asymptomatic carriers, and one embryo will express the disorder. For autosomal dominant or X-linked diseases at most two out of four embryos will be diseased and two will be unaffected by the defective gene.

cally for intervention, because the zygote does not experience pain. But it is equally true that reliance on this single principle would make it virtually impossible to set any limits on genetic intervention that had a reasonable case alleging to minimize pain. However, the case would be different if the zygote's future existence were taken under consideration. The dispute in this case becomes one of deciding just how much the well-being of the future person is to count in the utilitarian calculus. Considering the total amount of pain that would be experienced by the normal person in the natural course of life, if gene therapy applied to the zygote were successful, this beneficial circumstance would not outweigh the balance of pain that one ordinarily faces. This line of thought implies that the termination of life is the recommended course of action, not gene therapy. Utilitarian reasoning with respect to germinal manipulation, as I am here portraying it, leads to the following dilemma with respect to public policy: either the fundamental principle of the system fails to impose restrictions on manipulating natural processes, or its recommended policy is the termination of life. All in all if these considerations regarding somatic and germ-line inventions are correct, TU offers very little solace for the development of gene therapy.

(3) Prevention of "wrongful" life as a rationale for germ-line.

Proponents of TU can and do champion germ-line intervention on the basis of pain suffered by the family. This justification is forcefully argued by Grobstein and Flower. The essential point of the argument is that parents have a right to expect that their progeny will be born without genetic defect.

If human somatic gene therapy is medically demonstrated and accepted, however, a powerful rationale will exist to extend gene transfer to germ-line cells as well. If, for example, somatic cell therapy were fully effective in treating beta-thalassemia, an individual could claim an ethical right not to be deprived of germ-line repair since, without it, all offspring would at least be carriers and, were two double recessive individuals to marry, all offspring would develop the disease.²⁴

Grobstein and Flower unfortunately give no insight into the grounds for claiming that parents have an "ethical right not to be deprived of germ-line repair." One might suggest a human right exists based on a recognition that experiencing pain is part of the human condition, and more exigent than the right to have genetically healthy offspring. There are two general lines to pursue in seeking its foundation. One approach is to hold that the parents have a specific parental obligation to their children to limit the pain and misery that their children experience. The focus of attention according to this view resides with the developing fetus who at the earliest developing stage does not as yet experience any pain. I have already considered this position in the previous discussion so I will move on to the second general approach. On this view, it is the pain and suffering that accrues to the parents which grounds the specific parental right. This rationale, however, departs more or less radically from the original justification of gene therapy by shifting the burden of concern from pain narrowly construed to a the broader notion that includes the anguish one experiences as a response to the incapacity to carry out one's own desires and plans. In this case, the parents' desire to have a normal child is given precedence over the agonizing existence of the child. This is not to say that the

²⁴Clifford Grobstein and Michael Flower, "Gene Therapy: Proceed with Caution," Hastings Center Report (April 1984), p. 14.

human pain experienced by the parents is illusory--for surely it is not. Nor is it intended to be construed as though pain and suffering are causally disconnected; intense and chronic pain can alter one's orientation about life, and thereby, frustrate one's life plan. Rather the point is that in appealing solely to the parents' distress as a basis for helping them to bear children who enjoy a life free of pain, the justification moves from the narrow sense of pain, described by Fletcher in terms of morbidity and mortality, to an extended sense in which pain is no longer primarily physical but one that is measured by emotional or psychological distress, as well as the ethical interpretation of the occurrence of pain. Such a rationale could justify the parents' choice to have a child of a particular sex. Effective treatment in this context amounts to giving the patient (or parents) what he or she wants in order to fulfill his or her pursuits in life. Thus, there is a conceptual bridge to further uses beyond those that are said to be justified by the rationale of relieving pain.

(4) Extended rationales for gene therapy: germ-line interventions. It will be helpful to pursue this theme of extended justifications for gene therapy. I noted the highly restricted conditions under which somatic cell interventions are justifiable. In order to understand the justification for germ-line interventions, it will be helpful to examine those conditions once again and comment on how they are altered by germinal manipulation.

- (a) The disease candidates are very severe (i.e. the afflicted patient faces a life plagued by a debilitating disease or certain death),
- (b) expressing themselves early in childhood,
- (c) affecting small numbers of individuals in the population,

- (d) and only individual patients (presumably children),
- (e) according to scientifically predictable Mendelian inheritance patterns,
- (f) with no alternative therapies available,
- (g) nor any reasonable ways to adapt the patient's environment to his or her disease, and
- (h) with the intent to benefit primarily the patient,
- (i) through correcting, repairing, or restoring "normal" biological functioning,
- (j) by applying an experimental therapy resembling other types of innovative treatments in terms of risk and safety,
- (k) which provide a reasonable hope for success.

The current controversy centers on germ-line applications that would depart from these conditions by (d) affecting the progeny of the treated patient, and thereby (j) not possessing other medical analogues in the strict sense. By strict sense, I mean that there would be in most cases some intent to treat future generations.²⁵ This description follows from the fact that in most cases the well-developed somatic cell therapy would be available as an alternative. Consequently, the selection of germ-cell therapy would need to include other considerations that go beyond the patient's well-being. This means that there would likely be other departures from (f) because in most situations somatic cell therapy as an alternative would be available, and (h) because the intent to benefit the patient would not be primary, since curing the disease means eradicating the defective gene from the gene pool, which involves treating future offspring.

²⁵Exceptions would be those rare cases where no alternative somatic cell therapy was available due to the nature of afflicted tissue.

Other questionable conditions, at least from the common-sense point of view, would include in the early phases experimental research on human embryos.²⁶ Paul Ramsey, for instance, calls attention to this problem within germ-line research. In his view, the unborn cannot give informed consent to being the subject of germinal manipulation experiments, and subsequently does not freely bear the burdens required by such research. Accordingly, the means to any medical goal, no matter how laudable or important the knowledge, violates the fundamental canons of biomedical ethics. Those ends do not justify as means any steps that contravene the moral strictures within which biomedical research may properly operate. Ramsey concludes: "The decisive moral verdict must be that we cannot rightfully get to know how to do this without conducting unethical experiments upon the unborn who must be the "mishaps" (the dead and the retarded ones) through whom we learn how."²⁷ The point that Ramsey makes has import for the line of argument I am pursuing at this juncture. The question centers around the ethics of the means rather than the ends. Ramsey thinks that even though the research ends are laudable (i.e., relief from pain), it is still necessary to scrutinize the ethical ramifications of the means to acquiring that goal. His objection to germ-line research, though directed at Kantian bioethicists, is also relevant to considering the deliberations of

²⁶The desirability of using the human fetus in the development of this biotechnology is not necessarily limited to germ-line research. OTA reports that the safety and efficacy of somatic cell therapy might be improved by trials on the human fetus. In Human Gene Therapy: Background Paper (Washington, D.C.: U.S. Government Printing Office, 1984), pp. 33-34.

²⁷In To Live and To Die: When, Why and How, ed. R. H. Williams (New York: Springer Verlag, 1973), p. 113.

therapeutic utilitarians. Because the utilitarian holds the avoidance of pain as the fundamental principle he must ignore what Ramsey finds intuitively objectionable. Since the embryo in early stages of development does not experience pain, there is no utilitarian reason to prevent the research.²⁸ I cannot here resolve this issue, but it is useful to state the general direction of debate. Proponents of germ-line research will need to argue that the means is either (a) not bad, and controversial considerations can thereby be ignored, or (b) that the badness of the means, though not to be discounted, is nevertheless outweighed by the goodness of the end. By contrast, the opponent will have to argue that the badness of the means rules out the pursuit of the ends.

There can be no doubt--even by consequentialists, who do not draw distinctions between intended effects and side-effects--that the ethical implications of germ-line intervention are affected by the rationale for which it is undertaken. There are currently two scenarios supported by genetics. Under the first justificatory scenario, germ-line therapy would be limited to diseases that somatic cell techniques could not treat. In this set of circumstances, the justificatory condi-

²⁸Nor will it help at this point to introduce an ad hoc category of "social persons" similar to that discussed by Engelhardt. For him, this notion refers to an entity whose worth is justified "in terms of the usefulness of the practice of treating certain entities as if they were persons"; The Foundations of Bioethics, p. 116. The minimal criteria for invoking this notion would require that bonding had taken place, and bonding occurs when the parents are convinced in their mind that the developing embryo is a child whom they relate to in terms of certain practices called parenting. In this case, bonding would not have obtained, suggesting that the embryo has no worth. Moreover, that some parents assume the parenting role at the point of conception is something that utilitarians and Kantians have a difficult time giving due consideration within their respective schemes.

tions for germ-line would be similar to those mentioned above. Effects on future progeny would be properly considered side-effects rather than part of the aim of treatment. This restricted scenario follows from the limited set of conditions that are devoted to removing palpable genetic defects. The second scenario, however, would introduce a radically new situation. Under this set of circumstances, the principal consideration turns on the effectiveness of germ-line intervention, where effectiveness stems from eradicating the defective gene from the human genome. Although perhaps the individual patient could be benefited equally by somatic cell therapy, and might even be said to be provided a phenotypical "cure," the primary intent for intervention would be to treat the offspring. Moreover, the concern for the present individual patient would in this scenario at best be viewed as secondary. That is, the benefits of the present patient are understood as side-effects.

LeRoy Walters gives two arguments that reinforce these consequentialist scenarios involving germ-line therapy.²⁹ With respect to the restricted justification, some genetic diseases affecting the neurological system might be resistant to somatic interventions because of "blood-brain" barriers. To circumvent this type of barrier medical geneticists would need to insert genes into the cells of the early developing embryo. The second rationale concerns the fact that somatic cell gene therapy creates a new class of "homozygous carriers." The current technology is designed to mask the malfunctioning gene not to replace it with a normal one. From the perspective of heredity, only

²⁹"The Ethics of Human Gene Therapy," Nature, 320 (1986), pp. 225-227.

the indigenous genetic code is passed to the progeny in its haploid form. Thus, the offspring is left unaffected by somatic gene therapy. In this situation, there is no "cure" in the sense of eradicating the defective gene from the parental genome. If gene therapists limit therapy to body cell intervention, the treatment of prevalent diseases, like cystic fibrosis, might result in defective recessive genes remaining in the population through homozygous carriers, raising the prospect for higher rates of incidence in future generations. This occurrence provides a prima facie reason for germ-line intervention because it removes the defective gene from the parental genome. Thus, germinal manipulation is preferable because it avoids this consequence of extended applications of body cell therapy.

These are powerful scientific and technological arguments in support of pursuing research into germ-line therapy. But situations are not always what they seem to be. If one is to be consistent and thorough in applying the doctrine of therapeutic utilitarianism, one must observe once again that Walters' rationales point in two directions, depending upon how one credits the embryo and parents with pain. The developing embryo is generally thought not to experience pain. Consequently, the inability to attribute pain to the embryo indicates that utilitarian calculations will favor unlimited interventions. This will be independently supported by the duty to advance knowledge. Alternatively, if utilitarians take account of the pain that it will come to experience in the natural course of development, then abortion rather than intervention might arguably be indicated on the grounds that the amount of pain one experiences even during a normal life time generally

exceeds the amount of painless existence. Moreover, by broadening the considerations in order to permit the pain suffered by the parents in the loss of the child, these conclusions might be modified, but only on a case by case basis, and not as a universal policy. Thus, research for human germ-line genetic therapy along these lines is not easily justified. While utilitarians are likely to resist this conclusion, there remains considerable suspicion as to whether that can be done without calling into question their essential tenets.

But there is a more subtle yet fundamental point to be made with respect to extending the justification of gene therapy. Underlying this shift in thinking is the newly emerging motive to control natural processes so that individuals can more effectively achieve their life plans. It is this strand of thought that complements Grobstein and Flower's claim that parents have an ethical right to a genetically healthy child. If this is what parents want and their aspiration to be parents will suffer as a result having their desire frustrated, then in the absence of any pain that might accrue to the embryo (which as yet has no experiences), the bioethicist perceives it as the task of research to find new ways to minimize the family's distress. It is difficult to find fault with this line of reasoning so long as it pertains to palpable disorders. But because this type of justification relies on a much broader notion of pain, it contains the logic to reach far beyond diseases that cause pain that is physical in origin. Moreover, this implication is not immediately noticeable because it is confounded by the independent line of thought that the medical community has a strong duty to alleviate pain and suffering, without qualification.

This justification figures heavily into the overall outlook of the utilitarian researcher, who in judging the merits of the research project is not only influenced by the destructiveness of the disease, but the importance of advancing medical science, the status of the fetus, and the presence or absence of painful experiences rather than on the bearer of experiences per se. The confluence of all these elements within the utilitarian scheme cannot go unmentioned. But the one that I have been considering is the negative principle of avoiding pain. It appears that the other considerations are dependent on the centrality of this logical feature within the overall scheme. If one attaches significance to experiences of pain, then one will be ready to treat the fetus, who as yet does not experience pain, as merely an experimental subject. For this reason it will be difficult to appreciate that the fetus in the ordinary course of development will become quite unambiguously a human being so that one is impressed by the continuity between the subject of germ-line research and the person he or she is to become. By contrast, if one places importance on the human person as such in its continuity of development, one will not only tend to credit the fetus with the potentiality for future pain, but attribute to it a different status altogether that in turn affects its weighting within the deliberative process. This qualification, however, relies on theoretical commitments that make it difficult to embrace TU.

Thus, it is difficult to resist R. N. Smart's conclusion with special application to gene therapy. Whether one thinks only in terms of a single principle of obligation such as avoidance of pain, or a weighted-harm principle, or a lexical ordering of common intuitions

defining moral gravity of pain, nevertheless several general conclusions remain constant. (i) The treatment of all human pain as intrinsically evil does not provide sufficient limitations to genetic intervention. (ii) The justification of gene therapy solely along the lines of avoiding human suffering lends support for greater genetic control over natural process affecting significantly human activities, especially if the notion of human pain comes to include frustration of human aspirations. (iii) Minimizing suffering as the goal of biomedical research serves as a rationale that can in many instances suggest the termination of life rather than respecting it by means of genetic intervention.

To elude these objections the critic must introduce a non-consequentialist side-constraint respecting human life. But to adopt this kind of a non-consequentialist side-constraint requires additional theoretical support. Furthermore, it is not at all clear that any conception of respecting human life will provide adequate safeguards, since certain conceptions are inadequate to sustain the respect ordinarily accorded to human life. At the very least, one will need recourse to background theory about human nature in order to supply a framework for understanding why the human person has such special significance, and to justify what is intuitively thought to be permissible manipulations of human nature.

Moreover, innovative biotechnology, with its increased power to effectively bring about certain states of affairs, has the potential for not only redefining our moral practices in a manner unthinkable to past and present generations, but also altering our deeply held moral beliefs about human nature and destiny. That is a matter of no small concern--

especially given that those beliefs have already been under attack by other intellectual influences seeking to usher in a wholly new and presumably scientifically respectable understanding of the human condition. There are certain strands of thought prevalent within bioethics which allege that human aspirations are continually frustrated by our bodily existence, which should therefore be manipulated in order to develop and improve our true human potential. Further movement in this direction likewise contributes to the erosion of those "older" beliefs that provided reasons for resisting radical changes in our conceptual scheme, and fostered traditional practices that some are now unwilling to tolerate.

The Sanctity of Human Life

The thrust of my argument to this point has been to establish two central considerations: (i) that 'relief from pain' as the ultimate ethical principle is an insufficient justification for making good on the TU claim to set limits on the types of applications on human beings that will become possible as medical genetics advances; and (ii) that TU alone does not seem to provide a sufficient justification for encouraging gene therapy research, at least as it pertains to body cell intervention. In this situation, avoidance of pain considered as the sole ethical principle argues for terminating life rather than intervening to correct biological abnormalities. Moreover, if pain is construed broadly to encompass the frustration of one's aspirations, this rationale would warrant questionable manipulation of the patient's genetic endowment. Utilitarians will, of course, resist this argument by denying it or by refusing to acknowledge the inferences I have made.

As it stands, TU is an impoverished system to handle moral problems associated with applying genetic knowledge. To attend to these two central considerations TU needs to be significantly enriched by augmenting the scheme with other moral commitments that seem to better capture our ordinary intuitive appeal for ameliorating the conditions of a life plagued by a severe genetic disorder. In particular, we must consider the notion of respect for human life. If moral principles are explanation of our intuitive judgments in particular situations, it is necessary to seek some other foundation for gene therapy. Accordingly, in this section, I will begin to introduce the sanctity of human life as a necessary side-constraint for making substantive moral decisions in medical genetics.

If one provides 'life' with a certain meaning and attaches significance to it, the previously mentioned conclusions seem less plausible. For instance, if the preservation of life is more weighty a value than relieving pain, clearly there would seem to be at the very least a presumption against the destructive conclusion calling for the termination of life. At the same time, if 'life' is understood to include the bodily human form and is at the same time accorded respect, then relief of certain sorts of human pain will be seen as less urgent and indeed may even be perceived as having a redemptive value. On this view, pain itself is not always something to be overcome, or something whose elimination is an overriding ideal, though it may serve as a condition that demands our evaluation. These factors set the parameters for sanctioning the use of gene therapy in its body cell and germ-line forms. There is no question that secular or religious schemes are com-

plex in this way. But some doubt remains as to whether or not secular frameworks can explain or support the intuitive significance given to human life. This situation creates a predicament. Genetic intervention for the purpose of relieving pain is more acceptable than changes for the purpose of enhancing human nature because human life has great importance. But unless that belief about human life is sustained by the larger conceptual scheme, it will not provide adequate guidance for genetic interventions.

By 'life' one has in mind what William Frankena defines as "the sort of bodily thing possessed by us between conception or birth and death."³⁰ Finnis writes that 'life' "signifies every aspect of the vitality which puts a human being in good shape for self-determination. Hence life includes bodily (including cerebral) health, and freedom from the pain that betokens organic malfunctioning or injury."³¹ These definitions can serve as provisional descriptions of what will in this section be taken as the value of life. It will be the aim to inquire about the implications of this value for the ethics of genetic interventions. For those reared in the cultural traditions of the West, there is no doubt that life in its human form has a peculiar value unlike any other animate or inanimate form. Central to this normative position is the belief that the whole life is supremely valuable regardless of any imperfections it contains or experiences it affords. It is this belief

³⁰William K. Frankena, "The Ethics of Respect for Life," in Owsei Temkin, et. al., Respect for Life in Medicine, Philosophy and the Law (Baltimore: John Hopkins, 1976), p. 26.

³¹John Finnis, Natural Law and Natural Rights (Oxford: Clarendon Press, 1980), p. 86.

that informs our treatment of others' lives, as well as our own.

Any ethical system that was indifferent about life would scarcely be an ethical system at all. From the standpoint of the sanctity of human life, this attitude would be shocking not only to Christians, but to sensitive-minded humanists of all shades--whether scientific, liberal, or romantic. This reaction is not just the shock of surprise in the presence of novelty, but is closer to deep abhorrence or revulsion. There is an inkling of it in W. French Anderson's prudential assurances inspired by his scientific humanism: "Regardless of how fast our technological abilities increase, there should be no attempt to manipulate, for other than therapeutic reasons, the genetic framework of human beings."³² There may even be something of this attitude in Fletcher's uncharacteristically dogmatic pronouncement that "Aims to increase, by biological measures, the capacity to compute or remember, to alter the sex ratio, or to add height to the normal range are hypothetical examples of eugenic, and unacceptable, uses of gene technology."³³ But it is most fully and eloquently articulated by Stuart Hampshire in his more liberal humanistic mood. After acknowledging the origins of respect for human life in the Judaeo-Christian tradition³⁴,

³²Anderson, "Human Gene Therapy," p. 289-290.

³³"Ethical Issues in Gene Therapy," p. 303.

³⁴W. E. H. Lecky is among the first to attribute the sanctity of human life to the Christian tradition: "the first and most manifest duty of a Christian man was to look upon his fellowmen as sacred beings, and from this notion grew up the eminent Christian idea of the sanctity of human life. . .," in History of European Morals from Augustus to Charlemagne, 11th ed., vol. 2 (London: Longmans Green, 1894) pp. 18, 20, 34.

he excises it from that context, and then tries to protect it from consequentialist modifications:

The sacredness of life, so called, and the absolute prohibitions against the taking of life, except under strictly defined conditions, may be admitted to be human inventions. Once that human origin of the prohibitions has been recognized, the prohibition against the taking of life, and respect for human life as such, may still be reaffirmed as absolute. They are reaffirmed as complementary to a set of customs, habits and observances, which are understood by reference to their function, and which are sustained, partly because of, partly in spite of, this understanding: I mean sexual customs, family observances, ceremonial treatment of the dead, gentle treatment of those who are diseased and useless, and of the old and senile, customs of war and treatment of prisoners, treatment of convicted criminals, political and legal safeguards for the rights of individuals, and the customary rituals of respect and gentleness in personal dealings. This complex of habits, and the rituals associated with them, are carried over into a secular morality which makes no existential claims that a naturalist would dispute, and which still rejects the utilitarian with naturalism.³⁵

And, if Engelhardt's pessimistic statements about nature (to the effect that "these bodies are, . . . the blind deliverances of random mutations and selective pressures that have adapted to environments in which our ancestors lived")³⁶ reveal his own proclivity toward the naturalistic despair so typical of the avant-garde form of romantic humanism, Edward Shils clearly displays his optimistic leanings toward the more compensatory versions of romanticism:

The chief feature of the protoreligious, 'natural metaphysics' is the affirmation that life is sacred. It is believed to be sacred not because it is a manifestation of a transcendent creator from whom life comes: It is believed to be sacred because it is life. The idea of sacredness is generated by the primordial experience of being alive, of experiencing the elemental sensation of vitality

³⁵"Morality and Pessimism," in Public and Private Morality, ed. Stuart Hampshire (New York: Cambridge University Press, 1978), pp. 17-18.

³⁶H. Tristram Engelhardt, "Persons and Humans," Zygon 19 (September, 1984), p. 292.

and the elemental fear of its extinction. Man stands in awe before his own vitality, the vitality of his lineage and of his species. The sense of awe is the attribution and therefore the acknowledgement of sanctity.³⁷

Some modern theorists think that this belief in the unconditional worth of human beings can be subsumed under some more general theory of justice, friendship, or self-determination. However, there is some reason to doubt that this is the case. In proceeding with this discussion, it must be understood that the following principles are attempts to account for the traditional value accorded to human life. It is a necessary step in order to account for status of the sanctity of human life as an independent side-constraint on TU reasoning. Since these alternatives are central to establishing a framework for understanding the sanctity of human life I shall take them up first before considering the general underlying conception of human nature that supports it. I shall begin the discussion by briefly considering three secular approaches that seek to account for the unconditional worth of human beings, followed by the religious interpretation.

Sanctity of human life as a feature of impartial justice. The principle of impartial justice governs the treatment of individuals in groups with respect to their relationships among one another. The impartial observer is the perspective of a "third person" standing outside of the group and abstractly arbitrating among the members within it without respect to particular human frailties or imperfections. The principle of the sanctity of human life differs from this in that it addresses the treatment of oneself in relation to another individual. It is not the viewpoint of a detached observer, rather it is a perspec-

³⁷Life or Death: Ethics and Options, (Portland: University of Washington Press, 1968), p. 12.

tive of partiality. Moreover, impartiality is a negative concept: no individual has a better title of consideration than any other. Stated in this form, it fails to convey the commonly held belief that each individual has some worth. This, however, is precisely what, at the very least, the sanctity of human life brings to morality: an affirmation that every individual has some claim, that each does count in virtue of inclusion in the human community. Accordingly, the sanctity of human life is a positive principle. Impartiality is consistent with a moral scheme in which individuals are equally considered as having no worth whatsoever. Any moral point of view that would hold impartiality as its sole defining characteristic could be criticized for being either inadequate or incomplete. Justice may suggest a certain respect for individuals, but it is not equivalent to the sanctity of human life. Although justice is not ordinarily understood in this manner, it is consistent with a judgment of absolute non-importance. For this reason the sanctity of human life is quite distinct, even if it bears some relationship to the notion of fair treatment. Sanctity of human life is a necessary part of any complete view of bioethics, for only by it can one come to appreciate the worth of other individuals.

Sanctity of human life as rooted in either natural sympathy or friendship. The question, then, remains what are the grounds for attributing intrinsic worth to individuals. Here there appear to be two general candidates that secular bioethicists have taken seriously. Natural sympathy and friendship are both principles that shape the affinity toward fellow human beings. These two notions though related

are still distinct. I will consider them together here. Natural sympathy extends more broadly and is less deep in expressing respect toward others; friendship, however, is restricted but more potent in engendering mutual appreciation between like minds. Although that relationship can be described as reciprocal, this feature becomes unimportant for practical purposes since it exhibits two conditions that are most compatible with the supreme regard for human life as I understand it. Those requirements are (a) that friends are valued for their own sake, and (b) that each relationship displays a certain indifference toward one's own interests, while expressing a partiality toward others. Yet one must take full measure of the reality that friendships sometimes break down, and often with one or both of the parties expressing wounded feelings by the breach. Even the most perfect forms of friendships are, as Aristotle saw, conditional on mutual likings and esteem.

Perfect friendship is the friendship of men who are good, and alike in virtue; for these wish well alike to each other qua good, and they are good in themselves. Now those who wish well to their friends for their sake are most truly friends; for they do this by reason of their own nature and not incidentally; therefore their friendship lasts as long as they are good--and goodness is an enduring thing.³⁸

But would Aristotle's characterization hold up in a pluralistic society? As the vicissitude of daily life takes on new forms, and even more pertinent to a complex pluralistic society in which medicine is said to operate, as conceptions of the good life which reinforce social and communal ties fluctuate, the permanent loyalty and stability essential to,

³⁸Ethica Nicomachean VIII 1156b cf. 1158b 3-5, in *The Basic Works of Aristotle*, Richard McKeon, ed. (New York: Random House, 1941).

but presupposed by one's respect for human beings gradually evaporates. To be sure, Aristotle did think friendship was one of the strongest human ties, but there is reason to question his confidence. This suggests that genuine respect for human life cannot rest on moral goodness manifest in even the most perfect forms of friendship. For these bonds which consist in acknowledging certain qualities of the person rather than the person per se lack permanent loyalty and stability; virtues, which if abandoned, would never be deemed proper to sustaining dignity.

Sanctity of Human Life as a feature of self-determination.

Another ground for the claim that human life has intrinsic worth, and one that has much wider appeal, also bears some similarity to the Aristotelian position of friendship founded on moral goodness. But it locates the dignity of individuals in the reflective capacities rather than the affective dispositions of human nature. This thesis is based on the Kantian doctrine that persons possess a certain dignity and worth because they are self-conscious beings with a capacity of rational will. This strand of thought is widely celebrated in contemporary bioethics in the principle of "respect for persons"; Beauchamp and Childress explain:

This aspect of the principle of autonomy is often referred to as the principle of respect for persons, because it demands respect not for a utilitarian or any other reason except that another is a person and therefore rightfully a rational determiner of his or her own destiny.³⁹

³⁹Principle of Biomedical Ethics (New York: Oxford University Press, 1979), p. 59.

But in this scheme, as Beauchamp and Childress correctly see and are prepared to embrace, the unconditional worth of persons is bound up solely with conceiving individuals as autonomous moral agents, as "ends in themselves determining their own destiny and are not to be treated merely as means."⁴⁰

Stating the position this way it draws attention to the reciprocal nature of the relationship based on a person's qualities, i.e. the capacity for rational autonomy, rather than the person per se. Accordingly, it may be judged unsatisfactory because it is unable to account for our "other-regarding" bias as being fully moral. Resting, as it does, on the mutual recognition of one another's autonomy, Kant's doctrine creates doubts about the assurances concerning our respect where this attribute is in temporary abeyance or absent. These uncertainties do not, however, bother Beauchamp and Childress who warn against applying this doctrine either absolutely or too broadly.⁴¹ But lay people who do not think that the Kantian moral agent is a typical human being worry about such matters. It is easy enough to understand what Beauchamp and Childress might mean by not applying respect for persons "absolutely," since on a charitable reading there may be exceptional cases in which the application of the principle is found wanting. That is a likely fault of all normative theories. Although exceptional

⁴⁰Ibid., pp. 58-59.

⁴¹Ibid., p. 60.

cases can and do count against the choice of that theory, they are surely not by themselves telling. Yet it does seem strange to caution against applying the respect for persons "too broadly" while at the same time assuring us that it expresses the "unconditional worth" that we ascribe to human beings. Needless to say, it is with "non-autonomous" individuals that we see most acutely the imperfections and frailties constituting the human condition. And, it would indeed be morally repulsive not only to ignore but to be indifferent toward these individuals whose autonomous moral capacity is absent or incompletely developed. Such individuals in the neo-Kantian scheme are no longer persons in the strict sense, and thus not accorded the same type of respect. Yet the classes of individuals who suffer from the lack of this quality (e.g., the fetus, the neonate, the comatose patient, and the senile) are pervasive throughout the human community, both past and present.

Traditional Religion and the Sanctity of Human Life. By contrast, the conviction that individuals have supreme value and ought to be respected is understood differently within the Christian religion. Unconditional worth in this tradition is established on the basis of God's special relationship with human beings.⁴² To treat individuals with respect is to love them unconditionally, quite apart from any special qualities they exhibit. This is the Christian ethic of love

⁴²The term 'intrinsic' has not been traditionally used in the Christian tradition. This should not be taken to mean that the worth of human beings is merely instrumental or that the divine-human relationship is purely extrinsic. The better word to describe the manner in which human life is valued in this tradition is 'unconditional.'

referred to as "agape." Unlike human love based on friendship, the love that God expresses is greatly disproportionate to the inherent dignity and adequacy of its object. We know something of this emotion through familial relationships, but for us the intensity of that affection is restricted by natural affinity, whereas God's love extends equally to all humankind. Since this love attaches to the person per se, and not to the individual only insofar as that person possesses the powers of self-legislation, or capacities to experience pain and pleasure, or moral excellence, one can infer that the object of His love is the entire human being.⁴³ The point here can be put another way: human beings unlike the rest of the created natural world can come into a unique relationship with God because they are created as free agents capable of choosing responsibly between right and wrong, responding to or rejecting His love, but free moral agency is not the justification for their unconditional worth. The same is true of human relationships; one may come to express love for another because of the presence of certain qualities but they are not the grounds for loving that individual. That is, it is to be the sort of respect not based on reciprocity. Accordingly, as Austin Farrer writes, it is the entire human being with all one's peculiarities that has unconditional worth, in spite of all one's imperfections.

The regard we owe him is unqualified, because it is owed to God through him. And yet he is no mere channel through which regard is paid to God, for God is regarded by regard to what he regards, and what he regards is the man. The worth of the man is determined by

⁴³There are other theological reasons, such as the resurrection of the body, which are relevant to understanding the worth of man's physical, as well as spiritual and moral existence. Leslie Stevenson, Seven Theories of Human Nature (New York: Oxford University Press, 1974), pp. 39-40.

his place in God's purposes; and it is not a worth which in any way hides or palliates his imperfections. For it is measured by the infinite cost at which God is willing to redeem him from them. His worth lies, however, in nothing else than in what he actually is, for this is the subject of divine redemption, this very man whom I know: not, indeed, as God knows him: but in so far as I have any capacity for knowing my fellow-creatures at all, what I know is what God redeems.⁴⁴

To be sure, as Farrer's discussion suggests, placing man in a religious frame of reference is more congruous with the respect of the human person accorded by the traditional conscience. For such a perspective gives the fullest expression to an understanding of the sanctity that secular schemes are unable to accommodate. One needs to make clear, however, that this argument does not make the exaggerated claim that secular bioethics fails to recognize the importance of human beings. But in order to account for the different weight given to this conception within the total moral scheme, it is helpful to distinguish the meaning and significance given to the notion within the different schemes. It is the theological orientation that is best reconciled to the weighting we ordinarily give to human life. Christianity, however, does not impart a value to human beings that is otherwise not there, rather it allows one to see and appreciate the worth that is and has been there all along. There is an inner logic that favors an unconditional worth of human beings at all dimensions of their existence.

Perhaps I should state the point a different way. The conceptual pattern that has been emerging in the secular explanation of the positive worth of people is to respect some ideal human quality or experience, and is only derivatively extended to people because they

⁴⁴"A Moral Argument for the Existence of God" in Reflective Faith, (London: S.P.C.K., 1972), p. 123.

instance that trait or capacity. The neo-Kantian, for instance, wants to make the attribute of rational moral agency the basis for respecting human life. A comparable difference exists within consequentialism. Even if we grant for the moment that utilitarianism, at least in its Millian version, can set forth a principle of respect for persons by limiting the justification of infringement on the free expression of autonomous actions only when they encroach on the interests of others, the essence of the utilitarian theory, as Stuart Hampshire is at pains to point out, is directed at certain types of experience and feelings and not persons who are the bearers of those experiences and feelings. The monism of Bentham and Mill leads them to appraise the value of pleasure and the disvalue of pain. More discriminating utilitarians, like G. E. Moore, posited a plurality of experiences (e.g., friendship, knowledge, courage, health, beauty and certain moral qualities). There can be no doubt that the principle of the sanctity of human life rooted in its religious frame of reference, has had a major influence in shaping the occidental ethical traditions, including the research and professional ethics of the medical vocation; nor can it escape our notice, especially in the context of genetic engineering, such that the popular slogan "playing God" has gained such widely celebrated appeal in the popular consciousness.⁴⁵ In the secular cases, however, what is valued is not the human life as such, but the experiences and qualities which that life affords. It is this pattern that has led Basil Mitchell to distinguish between "experience-oriented" and "person-oriented"

⁴⁵It is somewhat indicative of the pervasiveness of this intuition within our culture that the President's Commission felt it necessary to discuss it in some detail in the report Splicing Life, p. 53-60.

ethics⁴⁶ in order to draw attention to the subtle but momentous shift in perspective between contemporary secular bioethics and the Judaeo-Christian ethic.

To sum up this section, Mitchell's distinction is not without import for the vexing problem of germ-line gene therapy. For those bioethical theories that place importance on experiences or qualities of persons rather than on persons per se have little if any reason for limiting the manipulations of human nature, bodily or otherwise. While those theories would obviously prohibit the destruction of the favored properties taken as key to persons, at the same time, there would be a presumption to improve human nature by enhancing those favored qualities. Moreover, it would be unethical not to manipulate those capacities. Glover is representative of this line of thinking when he writes:

It is not just any aspect of present human nature that is worth preserving. Rather it is especially those features which contribute to self-development and self-expression, to certain kinds of relationships, and to the development of our consciousness and understanding. And some of these features may be extended rather than threatened by technology.⁴⁷

If in addition to this position they incorporate a normative anthropology that espouses an evolutionary conception of human nature that explains the body as being simply the blind deliverance of evolution capable of rebelling against our rational projects and thereby defeating

⁴⁶"Is a Moral Consensus in Medical Ethics Possible?" Journal of Medical Ethics 2(1976), pp. 18-23.

⁴⁷Johnathan Glover, What Sort of People Should There Be?, p. 136 [emphasis mine].

our hopes, the case for germ-line manipulation in order to enhance one's capacity for fulfilling his or her plan of life will appear almost compelling within this framework. Likewise, it is open to quite different bioethical theories to be influenced by this view of anthropology.

This understanding seems to me to be the essence of Engelhardt's remark that there is nothing sacrosanct about our bodies. On his view, all that is morally justified is "the canons of prudence and care." This implication of the Kantian pattern is most vividly presented by his bioethics:

The enduring significance of genetic engineering of the human germ line lies in the fact that it offers the possibility of persons remaking their bodies in the image and likeness of their goals. One is left with the canons of prudence and care, since there is nothing sacrosanct about the particular deliverances of evolution, which we find currently in human nature. However, this itself is instructive. It underscores the character of the creative task of persons, which remains indefinitely open.⁴⁸

Our destiny, he admonishes, is to be "self-refashioners" and "self-manipulators."⁴⁹ These dictates follow directly from his "enlightened" view of the human condition, which, in turn, is informed by a Kantian view of human nature that radically divorces man's biological vitality from his capacity as a rational, and hence, moral being. It is the latter he calls personhood, as distinct from humanness, and he attaches moral worth solely to it.

The bodies we have as humans only in part meet our goals as persons. In many circumstances they default on our intentions, rebel against our plans, and defeat our hopes. These bodies are, as already noted, the blind deliverances of random mutations and

⁴⁸"Persons and Humans," p. 293.

⁴⁹Ibid.

selective pressures that have adapted to environments in which our ancestors lived. As persons, however, we can envisage what it might be like for our bodies to be better adapted to our current environment.⁵⁰

Our traditional understanding of the sanctity of human life, then, is bound up with beliefs about human nature. What I am arguing is that no secular conception of human nature is adequate to sustain the traditional commitment once it has been excised from the religious frame of reference.

Sanctity of Human Life, Respect for
Persons, and Normative Anthropology

There is no accounting of the sanctity of life strong enough to satisfy the commitment of the traditional conscience to the unconditional worth of human life. If we contrast the conception of human nature underlying the Kantian form of respect for persons with that which supports the sanctity of human life we can make this point more explicitly. Because we have been searching for independent reasons to depart from the TU calculus, I will focus upon the Kantian version of the principle of respect for persons before returning once again to the traditional commitment to respect for human life. There are some Christian bioethicists, the late Paul Ramsey being one of them, who extend respect for persons to include a respect for the human body as an inseparable part of the person. In that form, the sanctity of human life and respect for persons are rough equivalents.

⁵⁰Ibid., p. 292.

Kant's Normative Anthropology. Kant's respect for the autonomous will as the supreme principle of morality is connected to his own particular theory of human nature.⁵¹ For Kant, to be an autonomous, and hence moral agent, requires (i) that he not succumb to the solicitations of inclinations, and (ii) that he possess the power to control behavior in accordance with the moral law established by reason. He maintained "negative freedom" (i) on the basis that reason to be lawlike must be universal, and reasons generated through the senses are always subject to change. His defense of "positive freedom" (ii) attempts to avoid causal determination characteristic of space-time reality. As a consequence of the principle of moral autonomy Kant posited man as possessing a double nature that is partly constituted by a rational self and partly by a sensible self. He calls the rational nature the noumenal self and the sensible nature--consisting of the passions, impulses, instincts and sensations--the phenomenal self. The actions of the phenomenal self are causally determined, and hence, can be studied by the empirical sciences, while those of the noumenal self enjoy transcendent freedom. In order to preserve the sort of freedom that Kant holds to be essential to human dignity, he must maintain that the separation of our two natures is complete and utterly discontinuous. Kant, like his contemporary successors, moreover, places enormous importance on this distinction, assigning dignity and supreme worth to the one while treating the other as a subordinate capacity. Reason, or moral agency, is not simply the highest principle of human nature, but it is

⁵¹Robert Paul Wolff, ed., Kant: Foundations of the Metaphysics of Morals, (Indianapolis: Bobbs-Merrill Educational Publishing, 1969).

also the only principle that merits reverence or respect accorded to ourself and others. The noumenal self is the true, or real self, and Kant attaches to it supreme worth, while the phenomenal self, or what Kant calls "human nature," is ethically destitute.⁵²

Together these aspects of the same self are the central features of Kant's double nature of man. For Kant the pure or autonomous will is one that is solely governed by the noumenal self. He often refers to the autonomous will as the "Holy Will" because its action is informed only by the demands of the rational self and not the solicitations of the sensible self. Although this will is ascribed to God and the angels, nevertheless it serves as the ideal of moral agency. Kant contrasts the holy will with the "good will." The good will is one which always has the power to act on right principles, but is tempted by the solicitations of the sensible self. The wills of human beings are of this kind. The experience of obligation is bound up with our double nature as the good will struggles against the urges of the sensible self in order to strive to become like the autonomous self through complying with the pure rules issued by the noumenal self. Accordingly, while the good will acts from mixed motives, it is good only to the extent that it acts as if it were holy. Hence, the worth the good will possesses is in virtue of its imitation of the autonomous will, and not in virtue of its own mixed constitution per se.

⁵²Kant was quite adamant that morality cannot be founded on human nature; see Kant: Foundations of the Metaphysics of Morals, p. 6.

The difficulty with Kant's doctrine of man's double nature is that it does not provide a coherent conception of human nature on which to base the significance of moral agency that he has ascribed to it; nor does it do justice to moral agency, leaving it a morally impoverished notion. With regard to the ethical incoherence, the problem concerning how the transcendent self can act in the world without falling prey to causal necessity has been widely discussed by commentators on Kant's ethics.⁵³ It is not at all clear how Kant could address this problem within the perimeters of his moral theory. The possible options include: (i) some acts of the moral agent are free because they are determined by reason while others are not because they are determined by inclination; and (ii) the same act of the moral agent is jointly determined--reason and the natural causes must co-operate in determining the act. It is interesting to point out that the doctrine defended in the First Critique established that 'reason without sense' and 'sense without reason' were unintelligible propositions. Yet those claims seem to have been forgotten in the core of his ethical reflections. The theoretical concerns that gave rise to that problem, however, do not dissolve because of changes in the subject matter; rather, as C. D. Broad argues, it either renders moral language meaningless, or presents a picture of the true self wholly different from that which Kant thought essential to grounding respect for persons.

I have already shown that this solution is metaphysically impossible. It is equally unsatisfactory from an ethical point of view. Either what appears to me as my passive emotions and irrational impulses are purely elusive appearances, or they correspond

⁵³Works of Thomas Hill Green, ed., R. L. Nettleship, vol. 2 (London: Longmans, and green, 1886), pp. 106-109.

to something in my real self. If it be a pure delusion that I have irrational impulses it must be a pure delusion that I ever act on them, and therefore, a pure delusion that I ever act wrongly. If, on the other hand, these appearances do correspond to something in my real self, then it is indeed possible that I should really act wrongly at times. But my self will really be mixed; and there is no explanation why a self which is in fact of mixed nature should always be able to act as if its nature were purely rational. The truth is that Kant takes the mixture to be real when he is dealing with purely ethical questions, and takes it to be delusive when he is trying to give a rational theory of the metaphysical consequences which he thinks are entailed by the ethical facts.⁵⁴

Kant espoused that "Nothing in the world--indeed nothing beyond the world--can possibly be conceived which could be called good without qualification except a good will,"⁵⁵ and thus he appears to have succumbed to the view that human actions are largely mixed, at least in this present life. That is, there is absolute opposition between the rational self and the sensible self. The good will as he defines it is a will that has the power to act on conceptions of true self as presented by the categorical imperative, while at the same time remaining susceptible to, but not necessarily overcome by, the solicitation by the sensible self. Although this is the best that humankind can hope for, it does not ring true of human experience, as the movement of Kant's own thought bears witness. The incoherence is most acute in his discussion of the summum bonum or "complete good" which is made the end for the complete man, both rational and sensible. This inconsistency stems from Kant's ideal moral agent as a autonomous being acting only from principles of the moral law in complete isolation from the sphere of prudence.

⁵⁴C.D. Broad, Five Types of Ethical Theory (London: Kegan Paul, Trench, Trubner, 1930), pp. 136-137.

⁵⁵Kant: Foundations of the the Metaphysics of Morals, p 11.

But removed from this intellectual abstraction, the concrete moral agent is permitted to seek after happiness without any apparent diminishing of moral worth. David A. J. Richards develops the same argument in his discussion on Kant's sexual morals:

Kant's identification of moral personality with the body in his discussion of sexual morality is remarkably inconsistent with what he says elsewhere about autonomy as the basis of moral personality. In his central statements of ethical theory, moral personality is described in terms of autonomous independence--the capacity to order and choose one's ends as a free and rational being. By comparison, in his sexual morality discussion, the body acts as an absolute and inexplicable limit on autonomous freedom. It is impossible to square these views. Indeed, the deeper theory of autonomy, Kant's central contribution to ethical theory, requires the rejection of the rather parochial and unimaginative views of moral personality applied in his consideration of sex. Autonomy, in the fullest sense, rests, as we have already seen, on persons' self-critical capacities to assess their present wants and lives, to form and act on wants and projects, and to change them. . . . The existence of certain capacities or physical traits, as opposed to others, will importantly shape basic decisions on work and love. But the embodiment of autonomy does not limit the exercise of autonomy in the way Kant supposes.⁵⁶

From Richards' remarks one can see that, during Kant's more intellectualistic moments, he is very contemporary. His theory fragments human nature into personhood and humanness with the latter having no moral significance. Such a separation is not without its linguistic implications, for it renders all moral approbations for "humanitarian" effort or censure of "inhumane" actions unintelligible. It is not surprising, therefore, that Basil Mitchell should query as to what it is about Kant's moral agent that makes "it" worthy of respect:

Even if it is possible to make sense of this conception [the Kantian moral agent], the result would be a somewhat untypical human being. Not only children and imbeciles and, often, the aged are not, in this sense, moral agents, but the greater part of

⁵⁶David A. J. Richards, Sex, Drugs, Death, and the Law: An Essay on Human Rights and Overcriminalization (Totowa, NJ: Rowman and Littlefield, 1982), p. 109-110.

mankind, both today and in the past, have not achieved or even sought this kind of autonomy. Kant's conception of the moral agent and the dignity that attaches to him is both too individualist and too intellectualist to account for the importance we attach to persons."⁵⁷

The trouble with the principle of respect for persons within the Kantian tradition is precisely that it does not do justice to the living existence of persons to whom we owe respect. Kant must either revise his supreme principle of morality to conform to his considered teleological conception of human nature as presupposed in the summum bonum, or he must bring his theory of human nature underlying the summum bonum in line with his supreme principle of morality. The conclusion surely must be to look elsewhere for a more complete conception of human nature, to see how this shift in conceptual frameworks will alter our profound scruples respecting human life, and, in turn, to rethink germ-line therapy in the light of that understanding.

The point is that Kant saw the importance of compromising his supreme principle of morality by introducing teleology into his framework. Without a notion of teleology it is difficult to sustain an array of moral intuitions. Despite his critique of metaphysics, he continued to implicitly depend on a notion of human nature compatible with the Christian tradition. Without it he would have been unable to sustain his defense of the traditional conscience, as Mitchell so insightfully takes full notice.

It is evidence of the remarkable persistence of the teleological idea that Kant was not wholly consistent in his rejection of metaphysics and covertly appealed to the concept of nature in his formulation of the categorical imperative. It is only by claiming that the function of self-love is to preserve life that he can dis-

⁵⁷Morality: Religious and Secular, p. 132.

cern a 'contradiction of the will' in the maxim of the intending suicide: and it is only by maintaining that our talents have been 'given us' for self-improvement that he can stigmatize as immoral the man who proposes to allow his talents to remain undeveloped. For, as he readily concedes, we can easily conceive of a situation in which everyone commits suicide or lives like the lotus-eaters. And even the refusal of help to others is, in his terms, a breach of the categorical imperative, only if the individual 'wills' to be helped himself, he is not inconsistent in refusing help to others. If, however, he cannot refuse to be helped it is because, in the nature of the case, he needs help. And this involves a moral justification of a basically teleological kind.⁵⁸

So it is that a defense of the traditional moral intuitions requires that we think in terms of a teleological dimension of human nature. In the absence of this "illicit" backing, there is no credible way in which to account for provisions designed to protect the entire human being.

My reference to Kant has not been for purposes of historical appreciation, but is taken as an illustration of a major strand of thought in contemporary biomedical ethics. No doubt, under the influence of post-analytic empiricism certain themes such as a noumenal self will be purged from the Kantian bioethic; nevertheless, there continues to be the semblance of a normative anthropology very much like Kant. Bearing this in mind, we can state the relevant claims to consider from our discussion so far:

- (i) rational agency is the highest principle of human nature,
- (ii) the rational self is the sole basis for respecting the worth of others and oneself, and
- (iii) the sensible self is morally incidental.⁵⁹

⁵⁸Morality: Religious and Secular, p. 27-28.

⁵⁹Alasdair MacIntyre is making a similar point when he criticizes some moral philosophers following Kant for presenting "the unconditional and absolute character of the central requirements of morality in a way which makes it difficult to understand their precise character." About Kant, he writes "the requirements of morality are requirements of practical reason; this makes it easy to understand why Kant tries to use a criterion of consistent universalizability to discriminate genuine categorical imperatives from false pretenders to that status, but it is very hard to understand the connection that he makes

Kant's moral theory, as we have seen, either explicitly or implicitly embraces all three. By contrast, I have been presenting a case for the sanctity of human life that includes (i). Any theory of human persons which does not recognize that the rational faculty distinguishes human beings from other creatures would be unsatisfactory. However, I have given reason to doubt the validity of (ii): because the worth of a human being is determined by his place in God's loving purposes. The divine intent is unalterable by human frailties and physical imperfections, and is not determined by our mere powers of self-legislation that make others and oneself worthy of respect. Because this sort of love is sensitive to the human condition at all levels, it attaches significance to the entire person. It would be misleading, however, to infer that the theistic ethic disvalues free rational agency. Quite the contrary, it affirms that it is the condition for responsibly choosing or refusing such a way of life, and thereby encourages entrance into unique relationships. What it does not entail is that self-determination is the justification for a person's moral worth. With respect to the third claim, (iii), I plainly reject the normative scheme that divides human nature into two components, and that treats the worth of the sensible self incidentally. That judgment follows from locating the moral worth

with the conception of law and of the respect required by law. For since 'moral principles are not based on properties of human nature,' since all positive knowledge is irrelevant, we cannot build up our conception of the moral law by any analogy with positive law, whether human or divine." "Can Medicine Dispense with a Theological Perspective on Human Nature?" in Daniel Callahan, ed., Knowledge, Values and Belief p. 30, The Foundations of Ethics and Its Relationship to Science, vol. 2 (Hastings on the Hudson: The Hastings Center, Institute of Society, Ethics and the Life Sciences, 1976).

exclusively in the moral agency of the rational self, but it is not entailed by (i) so that one can maintain a normative anthropology that excludes claims (ii) and (iii) while holding something like rational moral agency or conscious reflection as the highest principle of human nature. But within the Kantian scheme, then, the cumulative weight from these three claims of normative anthropology serves as an important source for lending independent support for the view that germ-line therapy is morally acceptable. If the rational self alone is worthy of respect, then there is little reason for not exercising control over all natural processes, insofar as such changes are carried out safely, voluntarily and, of course, with adequate scientific backing.

To this charge there is one possible Kantian retort that deserves notice, though it has not been a dominant influence in Kantian bioethics. The situation to which I refer is an implication of the absolute opposition between the two natures. If in ordinary experience individuals are Kantian "mixed selves," rather than pure autonomous selves, are they still worthy of respect? The answer as it relates to practical application is ambiguous. If, on the one hand, the answer is positive, then it would seem to open the door to extending this worth to the all dimensions of the "mixed self." It suggests that the first claim of normative anthropology, which treats autonomous rational agency as the highest principle, does not support the position that our sensible self is morally incidental. Hence, in some measure or to some degree, the recognition of our earthly human condition serves as a "Kantian-type" prohibition against wholesale manipulation for purposes of being "self" creators.

On the other hand, this consideration about what significance to attach to the "mixed self" is often made to tell the other way. As we have seen, autonomy incorporates all of Kant's principles of morality, and so it becomes his supreme principle of morality. Actions are moral only if they spring from the autonomous will. This is tantamount to saying that only the autonomous will is to be respected.⁶⁰ Kant, however, admitted that a "pure" example of such a will had never been met; and furthermore, he teaches that for human beings perfect self-realization is impossible in this life. That, however, could be said by Kant with some degree of equanimity because he believed in the immortality of the soul. Engelhardt, on the other hand, is not so inclined, though he does hold along with Kant that the "mixed-self" is an encumbrance to self-realization. It is consonant with his view that biotechnology should accomplish what Kant never thought possible: "perfect self-realization in this life."

In addition, there is a third way in which Kantian normative anthropology is conducive to most forms of genetic intervention. From an ethical perspective, Kant seems to have devalued human sensibility equating it with non-rational animals. These premises are perfectly compatible with the dual theories of evolution. On this view, biological evolution occurs over long periods of time through natural selection and adaptation to the environment. Where biological evolution stops

⁶⁰One might object to this reading of Kant, claiming that the good will is a mix of autonomy and inclination. But the objector must bear in mind that the good will is good only to the extent that it acts as if it were an autonomous will. It is this motive separated from the solicitation of the inclinations that make the good will worthy of respect.

cultural evolution begins. It is through this process that involves an interaction between genes and the environment that distinctively human qualities emerge. In Kantian language, biological evolution largely accounts for the development of the sensible self while cultural evolution roughly approximates to the rational self.⁶¹ Kantian anthropology, moreover, bears some similarity with the dual theories of evolution. This is further reinforced by a disparaging assessment of biological evolution. Taken together these theories provide a complete materialistic explanation such as that presented by Engelhardt. Thus, the Kantian doctrine provides an additional branch in the highly ramified scheme that provides independent support promoting germinal genetic interventions for purposes other than the narrow rationale of providing relief from pain.

Joseph Butler's Holistic Normative Anthropology. By contrast, the moral principle respecting the entire human person is coterminous with a complete conception of human nature. I have been suggesting that the sanctity of human life best articulates that belief because it is supported by that very concept of human nature. Perhaps the most notable figure to attend to philosophical anthropology in relationship to ethical theory was Bishop Joseph Butler (1692-1792). Butler's ethic is not a theological ethic in the sense that the capacity for perceiving moral truths is dependent on recognizing the commands of God. It does

⁶¹The parallel between cultural evolution and the Kantian rational self is very rough since the noumenal self is outside of time, whereas cultural evolution is a temporal development. But the parallel is more rigorous with neo-Kantian bioethicists who have located what Kant called the noumenal self within time.

not purport to make morality epistemologically dependent on religious beliefs. But there is still a theological underpinning to the account of human nature that Butler uses to reinforce the claims of morality.⁶² The particular religious belief that reinforces his conception of human nature is that human beings are a creation and design of God so that our whole nature is the way it is for a purpose. This central theological tenet has several other biblical themes consequent to it, such as the belief that individuals are stewards of their lives; that they are created in the image of God; and that they are appropriate objects of His love (agape); though for purposes of my argument I will not develop them here. I would only point out that the justification of an action within Christian thought usually follows not from a single theme but from the convergence of several independent considerations. This approach is remarkably similar to the pattern we see emerging from secular systems. It is, however, important to highlight this particular conception of human nature associated with these theological doctrines as it has developed within philosophical theology, and contrast it with the double nature view.

Central to Butler's conception of human nature is the idea that human nature is an economy or an organic whole analogous to a civil constitution. There is no doctrine of the double nature with its accompanying normative anthropology, and this alters enormously the way

⁶²Butler thought the dependence thesis consisted primarily in metaphysical or ontological claims. I am construing the dependence thesis as justificatory, when I take justification to incorporate the notion of best explanation. For a detailed discussion of kinds of dependence theses see Glenn C. Graber, "The Relationship of Morality and Religion: Language, Logic, and Apologetics," unpublished Ph. D. dissertation, University Microfilms International, 1972.

in which Butler conceives of morality and the moral agent. The relevant point being that morality is not placed in a situation of absolute opposition to inclinations. By contrast, while Kant himself did not intentionally pit morality against inclination, many commentators have acknowledged more than a little basis for an ascetic interpretation from his separation of the rational and sensible self. There are, however, several components to human nature in Butler's view, each being related systematically to all the others according to inner principles. Human beings like other animals have a lower nature comprised of inclinations, emotions, appetites and the like. Unlike non-human creatures that are obedient to the strongest impulse at the moment, human beings should be governed by the highest principle of their nature, namely conscience, a notion that refers not merely to a particular kind of reflection but the entire process of moral discrimination. This process includes both a cognitive and an affective aspect; that is, both 'pure practical reason' and moral feeling or 'moral sense.' Butler's ethic is a form of rationalism, but it is not the rationalism of Kant. The standard by which conscience or practical reason judges is the nature of the living moral agent as an organic whole, not that of an imaginary agent whose nature is nothing but pure reason. In addition to this principle, there are two others of special importance to morality. Self-love appraises private good, and benevolence values the good of the community. The union of these different principles comprises a harmonious and integrated constitution. For Butler, morality consists in acting in accordance with the whole of human nature, and his maxim is, to

paraphrase the Bishop, "Follow human nature as a whole."⁶³ As he tells us in his opening remarks, his Sermons are "intended to explain what is meant by the nature of man, when it is said that virtue consists in following, and vice in deviating from it; and by explaining to show that the assertion is true."⁶⁴

Although our desires and passions are subordinate to the higher principles, Butler is surely not indifferent toward their value, and includes them in assessing the worth of the whole human being. Moreover, in virtue of his theistic teleology, he is committed to valuing all that a good creator has created. Accordingly, Butler denies that the inward principles are themselves inherently evil. But the same conclusion follows as a point of logic. If it were the case that inward principles of our constitution were contradictory and led to opposing ends, then either our nature would not be a unified economy, or it would be illogical to deduce virtue as the end from the structure of our being. As we will see, Butler's view on human nature presents a plausible explanation for understanding why the layperson is so troubled by certain forms of genetic intervention. Its plausibility rests with the credibility of the underlying religious frame of reference.

⁶³Joseph Butler, The Works of Joseph Butler, ed. W. E. Gladstone, vol. 2: Preface to the Sermons, section 7 (Oxford: Clarendon Press, 1897), p. 5.

⁶⁴*Ibid.*, section 8, p. 5.

A Brief Defense of the Theistic Interpretation of Life

In proceeding with the theistic interpretation of life, I need to briefly consider three criticisms. (1) It is, of course, open to the unsympathetic critic to dismiss the case I have been developing on the basis of its religious credentials alone; not so much because it is thought that these schemes lack an inner logic (though indeed that too is believed to be so), but because religious concepts and language are thought to be unintelligible to the outsider. The reasons for this are familiar to the philosopher. There are difficulties with its obvious reference to religion in general, and Christianity in particular. One might argue that if it is to be useful in bioethics in a secular setting, surely the meaning of its useful terms will need to be translated into other well-established concepts which are readily accessible to all. On this point, K. Danner Clouser reminds us that religious beliefs are irredeemably subjective, and that "in ethics we must seek that to which all rational men could agree. Our world is too pluralistic to derive its rules from a limited set of metaphysical commitments to which only a smaller subset of persons subscribe."⁶⁵ (2) Furthermore, the principle is regarded as overly restrictive since it places supreme importance on human beings, and less significance to all other species.⁶⁶ (3) While the principle is appealed to both inside and outside of the medical context, its practical application has been limited to the rule prohibiting killing. With respect to genetic intervention,

⁶⁵"The Sanctity of Life: Analysis of a Concept," Annals of Internal Medicine 78 (January 1973), p. 119.

⁶⁶Alison Jagger, "The Sanctity of Life as a Humanist Ideal," Journal of Social Philosophy vol. 5 no. 2 (April 1974), p. 11.

the primary issue concerns changing the form of life, not cutting it short or prolonging it. So the sanctity of human life principle, if it is to be salvaged from its muddles and unreliability, and if it is to maintain its place in something like Engelhardt's first tier of public morality, it must be supportable either by utilitarian reasons, or by the negotiations of free and rational contractors, or by some such publicly accessible foundation. The question is whether these objections are insurmountable. I do not think so. That said, any serious retort to these concerns cannot ignore the philosophical difficulties surrounding the defense of theism.⁶⁷ Although it is not possible here to pursue a discussion in philosophy of religion, it is sufficient to stake out the perimeters of the debate between the theistic and secular bioethicists.

(1') The secular presumption that theistic bioethics has no rational basis. As we have seen, Clouser and others hold that there will be, or should be, a ready agreement as to what is or is not rational, and that religious beliefs are irrational. The believer, however, will not concede that these beliefs together with their ethical implications are non-rational. The secular bioethicist is free to argue that religious beliefs have no rational support, but he cannot expect that the believer will leave this stance uncontested. The unbeliever may properly require that the believer yield to the canons of rational discourse, but he cannot reasonably expect to beg all the fundamental questions from the start. It is important to notice how easily this

⁶⁷ Basil Mitchell, The Justification of Religious Belief (New York: Oxford University Press, 1973).

secular presumption can lead to simple-minded arguments in the context of bioethics. Engelhardt, for example, criticizes Paul Ramsey's discussion on the relevance of theology in determining the morality of artificial insemination from a donor in which Ramsey writes:

We need rather the biblical comprehension that man is as much the body of his soul as he is the soul of his body. The single word sarx in the "one-flesh" unity of marriage and parentage is sufficient to impel us to think with the Jews and Christians in all ages who have affirmed a unity between the vocations of soul and body. They therefore affirmed the biological to be assumed into the personal and in some ultimate sense believed there is a linkage between the love-making and the life-giving.⁶⁸

Engelhardt evidences this passage as an instance in which the "moral claims made within a particular moral tradition are liable to appear strange and exotic to those trying to weigh claims on rational grounds alone." The theme of this passage, which is the union between the mind and the body, is not at all difficult to understand for anyone who is not a Kantian. Given the discussion just above on Kant, it should be clear that the alleged unintelligibility has more to do with the commitments of Engelhardt's own scheme than an incoherence of theistic bioethics. Surely any scheme, secular or religious, that recognizes the worth and dignity of our bodily nature, as well as our rational self will be suspect, if not unintelligible, to the neo-Kantian perspective, in spite of the fact that it makes perfectly good sense to those outside that philosophical tradition. Even critics who fairly and sympathetically criticize traditional religion, like J. L. Mackie, are still prepared to recognize the coherence of the theistic ethic, although they think that a belief in the God of theism is incoherent.⁶⁹

⁶⁸The Foundations of Bioethics, p. 26-27.

⁶⁹Ethics: Inventing Right and Wrong (New York: Penguin Books, 1977), p. 31-32.

(2') The secular presumption that the sanctity of human life is partial. This complaint can be made from two quite different perspectives. The Kantian attack, as we saw with Engelhardt, removes the humanness that is essential to understanding moral agency by idealizing only pure autonomous will deemed to constitute personality. By contrast, the utilitarian strategy reduces all that is worthy of regard to experience common to the human and non-human world. Jagger's charge of speciesism, for instance, is at least compatible with, if not entailed by the utilitarian outlook. Each theory despite the differences leads in its own respective way to a position that ascribes little appreciation to humanness.

The defense against the complaint that the sanctity of human life is unjustly restrictive in giving greater value to one species, rather than adopting the more inclusive position of all sentient life can take two lines of response. First, the shift of focus from human life to all sentient beings, including the non-human world, is for reasons quite consistent with the empirical interests of utilitarianism to reduce everything in final analysis to states of feeling.⁷⁰ Thus, given a theory that seeks either to maximize or to minimize certain experiences, it is not difficult to discern the significance of expanding the scope to include other beings, without special concern for the bearer of those experiences.

⁷⁰Stuart Hampshire, ed., "Morality and Pessimism," in Public and Private Morality, (New York: Cambridge University Press, 1978), p. 2.

The second line of defense focuses on the special appeal to impartiality. It, too, is given a certain sense that is an extreme view. This principle is derived by defining the relevant features of life as sentience such that there can be no relevant difference from the moral point of view between the human and non-human worlds. Since the theory is interested only in bringing about states of affairs, there is no comprehensible reason for restricting worth to certain species. But this is dictated by the interests of the theory to promote certain states of affairs to the exclusion of others, and not from a motive to safeguard from spoliation of the non-human world. It is a means by which to increase the total preferred experience comprising a given state of affairs. Thus, impartiality is not an inherent virtue of the theory, but one that derives from the goal-oriented structure of the theory. Once the goal is established the theory dictates an indifference toward certain actions that are not conducive to achieving that end. As Bernard Williams says, it gives the appearance of a more serious attitude than non-consequentialist views, and appeals to certain kind of high-minded individual. Yet, that is also what is wrong with it, because in adopting a state of affairs which strips human beings of everything that makes them human, there is nothing left of moral existence that evinces our respect of the moral agent.⁷¹

⁷¹Utilitarianism, p. 96. Also, for a non-theistic response to the charge of speciesism that defends the importance of human life see C. A. J. Coady, "Defending Human Chauvinism" Philosophy and Public Policy 6 no. 4 (Fall 1986), pp. 12-14.

In taking measure of both these defenses, one is pointing out that attacks on the partiality of the sanctity of human life are themselves grounded in prior theoretical commitments which are in question. Accordingly, it will not do to boldly criticize the Christian metaphysic for being theory-laden. That charge can be met by drawing attention to the question begging nature of the allegation. In resolving this dispute, further argument is needed at a higher level. The selection of either will require further justification comparable to making a rational choice between competing scientific theories.

(3') The secular presumption that the principle of sanctity of human life is impractical. This discussion has been somewhat abstract and it is important to examine how it might be applied to the issue of body cell therapy, and to the question surrounding germ-line interventions. It is important to bear in mind that the sanctity of human life, in virtue of being a general ethical principle, will not be straightforwardly applied. Judgments based on this principle will not be self-evident. Any conclusion reached in accordance with the principle will follow from a number of converging arguments arrived at from the whole context in which the decision is made. This means that its application will not necessarily lead directly to an intuitively recognized and infallible moral insight. Its place in the overall scheme suggests a unifying role among the other biomedical ethical principles. Because of its centrality, it is a highly ramified principle whose content and logical status affect the weighting and relationships among moral principles and other commitments. While one might object that this interpretation of the principle is much too complicated to be practical, I

can only remind the critic that this situation is quite similar to the deliberations in risk/benefit analysis, especially when it is carried out more or less informally. One difference, however, is that this principle is informed by a different conception of human nature which carries with it a greater sense of worth of the entire person with all one's peculiarities and imperfections. The person as such, independent of the qualities and experiences afforded by one's particular form of existence, is to be given unconditional significance.

The considerations that will be weighed in judging the appropriateness of a therapy may sometimes be the same as those which consequentialists find significant, while the logical status will in many cases be quite different. That is, they will be reconsidered apart from their maximizing or minimizing logic that affects their weighting in a utilitarian scheme. For example, the hope of removing affliction and suffering from disease is always relevant, even if it is not the goal to minimize but to alleviate misery and pain. Similarly, the normative system I am contemplating includes many elements to be weighed. This is because experimental and innovative technology cannot be judged in abstraction from the research project itself. The activities in which a research project engages are part of the "moral history" of a given biotechnology and this must be considered when justifying the therapy. Bioethics must balance the ethics of the means of research with the ethics of the ends of research.⁷² With respect to the means, it makes a difference whether experiments in gene therapy are well designed, so that among other factors they do not place undue bur-

⁷²See above pp. 258ff.

den on a single segment of society. The same concerns stated here have previously been raised in discussions on research involving special populations in society (e.g. children, elderly, ethnic and minority groups, and prisoners). The special population regarding germ-line therapy will be the human embryo and fetus. This, as we saw previously, raises issues of its own. Other activities will take into account requirements of ensuring that the patient-subject is appraised of relevant information concerning his or her involvement in the experimental project and given opportunity to consent voluntarily. In addition, non-consequentialism attaches significance to the continuity with other established forms of medical therapy. (I will leave aside the claim that these may have been justified on consequentialist grounds.) However, in addressing these considerations, the bioethicist must not lose sight of the additional question: Is it ethical to manipulate human nature for purposes of increasing our capacities or ability to alter people's experiences? It is the philosophical commitments underlying an affirmative answer to this question that challenges the principle of the sanctity of human life. Apart from the religious frame of reference, there is no normative structure in systems I have been entertaining beyond the canons of prudence that make the question meaningful. Indeed the central question for those secular normative schemes is best captured by the dust jacket of Jonathan Glover's recent paperback, What Sort of People Should There Be?

In what sense, then, does germ-line violate the sanctity of human life? Granting that this principle refers to human persons as created beings, the neo-Kantian rationale for germ-line therapy aimed at enhancing our bodily existence to further one's life plan fails to

recognize the worth of the entire human being. This justification is directed at manipulating certain qualities that are true of human beings while devaluing other aspects of our nature. Engelhardt's view is a violation precisely because our bodies are accorded incidental worth and can therefore be manipulated to suit most any personal preference.. Consequentialism violates human nature because it is overly selective in singling out certain types of experiences as solely valuable. Put simplistically Kantians violate the principle because they devalue the sensible self. Consequentialists transgress the principle because their normative theory attaches to only one dimension of human existence. Both schemes fail because they do not seek to treat the entire human person. By contrast, the sanctity of human life is the one principle that safeguards the complete human being. It is the principle most consistent with the traditional conscience. Therefore, insofar as the intent of genetic intervention aims at restoring genetic health to the whole individual the principle of sanctity of human life would seem to be honored. This is the case with current diseases that are candidates for somatic cell intervention. Germ-line research aimed at restoring wholeness remains controversial because of the means involved with achieving that goal.

Final Remarks

To sum up, then, I have been trying to make a case for including the sanctity of human life--interpreted as a integral part of the traditional conscience--in questions pertaining to genetic intervention. Its role within the overall normative scheme is to function as a side-constraint, limiting the sorts of genetic manipulation that may properly

be undertaken to achieve significant human aims. The grounds for this conclusion is that a non-consequentialist normative theory best explains our ordinary moral responses, both the concern for limits and guidance, that affect particular judgments made regarding innocent life plagued by a genetic disorder. Part of that case accepts the theistic point of view along with the metaphysical scheme that it entails. Apart from such a framework, the bioethicist is faced with two alternatives: either he or she must adopt wholesale interventions, or find some way to defend a prohibition by appealing to some notion of human nature that is more coherent than theism. Contemporary bioethics follows the latter approach. There are certain strands of thought within contemporary bioethics that would permit genetic research in germ-line interventions for non-restorative purposes. To mitigate the moral abhorrence toward this trend, the best the consequentialist or the Kantian can do is establish provisos of caution, safety and other ad hoc considerations. Alternatively, the theistic ethic with its principle of the sanctity of human life offers the most defensible rationale to resist research and applications for purposes other than relieving pain and restoring genetic health to the complete individual. Kant saw this point and tried to compensate for the intellectual tendency of his theory by conflating it with his teleology. Some utilitarians, whose theory traditionally focus on desires, implicitly show need to complement their approach by stressing the qualitative "higher" experiences as intrinsically valuable. The conception of human nature is at home in a Judaeo-Christian world. For that reason it has become intermingled with the complex values and beliefs that make up the traditional conscience.

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VITA

Scott Eugene Daniels was born in Beatrice, Nebraska on August 29, 1954 to Phyllis Jean and Eugene Andrew Daniels. He attended elementary and middle schools in Wahoo, Nebraska and graduated from Wahoo High School in May 1972.

He is a 1976 alumnus of Nebraska Wesleyan University (NWU) where he majored as a pre-medical student in biology. During his junior year, he was accepted into Tri Beta, a scholastic honor society in biology. While attending NWU, Scott built a reputation as a student leader being elected as the student representative to the Board of Governors for the institution. He was active in Theta Chi fraternity, and was recognized in Who's Who among Students in American Universities and Colleges his senior year.

Upon completion of his Bachelor of Science degree from NWU, he enrolled in the Master of Divinity program at Trinity Evangelical Divinity School near Chicago, Illinois. His Master of Divinity was awarded in June, 1980. During this period, Scott became interested in ethical theory. To further develop this interest he completed a Master of Arts concentrating in philosophy of religion. His M.A. thesis is entitled "Morality without God: A Metaethical Study of Theological Ethics." His second M.A. degree was subsequently awarded on December 1982. At the prompting of his professors, who were also close personal friends, he turned his attention to the applied area of ethical theory, especially its relevance to biomedical ethics.

Several months before the completion of his M.A. thesis, Scott enrolled at The University of Tennessee, Knoxville, largely due to a shared interest in theological and biomedical ethics with Glenn C. Graber. Bioethics is a highly specialized field, requiring a familiarity with law, philosophy, and religion, as well as the diverse ethical theories affecting medical decisions. In conjunction with doctoral work in philosophy, he undertook selected legal studies at the University of Tennessee College of Law to enrich his understanding of public policy. Much of this educational background was drawn upon in writing his doctoral dissertation, "Justifying Human Gene Therapy: An Assessment of Some of the Central Ethical Considerations Underlying the Application of Genetic Knowledge to Human Subjects from the Perspective of the Traditional Conscience." On November 2, 1989, he successfully defended his dissertation argument, and was subsequently awarded a doctorate of philosophy (Ph.D) in May 1990.

On December 8, 1986, he was appointed by Otis R. Bowen, M. D., former Secretary of Health and Human Services, as Special Assistant for Policy Development, where he served the Commissioner of the Social Security Administration, Dorcas R. Hardy, in the administration of President Ronald Wilson Reagan. He has been newly appointed by Secretary Louis L. Sullivan, M. D., current Secretary of Health and Human Services, to serve as the Executive Assistant to James O. Mason, M.D., Dr.P.H., the Assistant Secretary for Health and Acting Surgeon General for the Public Health Service of the United States, in the administration of President George Herbert Walker Bush.

Scott is married to the former Constance Young of Mansfield, Ohio. He is the father of Melissa Christine and Andrew Scott Daniels.