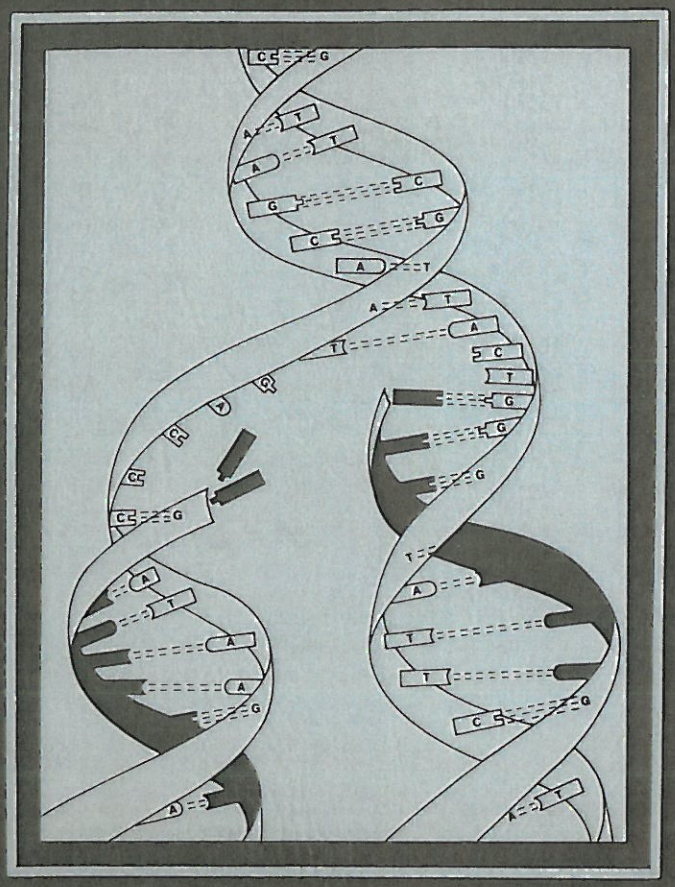

# BIOTECHNOLOGY L&W

ITEST : APRIL 10–12, 1987

# INSTITUTE FOR THEOLOGICAL ENCOUNTER WITH SCIENCE AND TECHNOLOGY (ITEST)

The purposes of **ITEST** are:

(1) To act as an "early-warning system" for the Church on work being done in the scientific laboratories;
(2) To translate this information into a theological/ecclesial vocabulary;
(3) To identify those scientific developments affecting Christian belief and to promote Christian teaching in these matters;
(4) To build a community of scientists who are dedicated both to the advancement of scientific understanding as well as to the growth of the Church.

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# WORKSHOP

# BIOTECHNOLOGY AND LAW

sponsored by

The Institute for Theological Encounter with Science and Technology

(ITEST)

April 10 - 12, 1987

Christian Brothers Spiritual Center

Adamstown, Maryland

# FOREWORD

Most of this Workshop's discussion needs no further comment from me. There are, however, a few particular cases that demand some brief comments, particularly for our non-U.S. readers.

The "Baby M" case is referred to in the discussion. Baby M is a child born to Mrs. Whitehead who had contracted to bear a child for a couple named Stern. After the birth of the child, Mrs. Whitehead changed her mind and decided to keep the child, a girl who is now about two years old. The Sterns sued for the child and the case has been tried in the state courts in New Jersey. The judge decided for the Sterns -- and against Mrs. Whitehead (the natural mother) -- basically on grounds that the Sterns would provide better for the child. The case was the first such in U.S. Courts -- a custody battle for the child complicated by a contract for surrogate motherhood.

One other brief note: the U.S. Supreme Court has decided that organisms are patentable as the Patent Law now stands. The U.S. Congress could change the Patent Law to preclude such patenting of organisms if it should see fit. Animal-rights activists and some environmentalists are deeply opposed to the patenting of genetically-altered animals and there may be some future political action on such patenting.

We hope you find this volume informative and profitable.

Robert Brungs, S.J.
Director: ITEST

September 1, 1987

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# BIOTECHNOLOGY AND AGRICULTURE: ANIMAL AND PLANT GENETICS

Dr. Gwen G. Krivi

Dr. Gwen G. Krivi is a Science Fellow in the Department of Biological Sciences of the Monsanto Company in St. Louis. Her current responsibilities involve coordinating research efforts within the Department of Biological Sciences with the research program of the Animal Sciences Division of Monsanto.

Dr. Krivi received her Bachelor of Arts degree, with joint majors in psychology and biology from Bucknell University. After completing her doctoral education in biochemistry from the Massachusetts Institute of Technology, she spent two and a half years as a post-doctoral fellow in molecular biology at the University of California, Irvine. Dr. Krivi has been with the Monsanto Company since 1980. She has authored many articles and abstracts on molecular biology relative to plants and animals.

We are in the midst of a major debate, the outcome of which will dramatically impact the future of agriculture in the United States as well as the rest of the world. The debate centers on the use of new technologies, loosely called "biotechnology", for applications in improving animal and plant productivity. These new technologies include recombinant DNA or genetic engineering technology; monoclonal antibody technology; cell culture technology; bioengineering; instrumentation development; and information technology. This essay will focus on the potential benefits and discuss briefly perceived risks of the use of the first of these new "biotechnologies" in agricultural applications.

Recombinant DNA technology allows the scientist to move genes coding for desirable traits between the cells of any two organisms. For example, a gene isolated from bovine cells can be moved into a common bacterium, such as Escherichia coli, where the gene will function to produce its normal protein product in large quantity, as has been done for bovine somatotropin. A second example would be the transfer of a gene coding for resistance to a type of insect pest from a fungal or bacterial source into a commercial crop species, as has been done for Bacillus thuringiensis (BT) toxin. Gene transfer experiments such as these, as well as other examples which will be discussed later, have the potential to improve the efficiency of production of agricultural products, to allow for better use of the environment, and to improve the quality of agricultural products. Longer range, this technology should allow for production of new types of agricultural products which will benefit society. Taken together, these benefits should help the farmers in developed countries remain competitive in an increasingly complex industry and may also increase the food supply in developing countries, although in the latter case political realities may interfere with full realization of the benefits.

With these potential benefits, why does a debate about use of this technology for agricultural applications even exist? The major concerns are 1) environmental, that release of genetically altered agricultural organisms into the environment will in some way damage this environment; and 2) societal, that use of the new technologies will totally reshape the nature of the agricultural industry. This essay will attempt to address briefly these perceived risks as well as the benefits of genetic engineering, as applied to animal and plant agriculture.

## Animal Agriculture

Most of the first animal agriculture products of biotechnology to be tested and marketed are proteins made by microorganisms which have been "engineered" to carry animal genes. These protein products are copies of native proteins and are used to supplement natural function by direct administration to the target animal, often having dramatic impact on the performance of that animal. Generally, recombinant DNA technology is the only means to produce large quantities of these proteins because they are present in extremely low quantities from natural sources.

Good examples of such animal protein products are the animal somatotropins, which are being developed to increase the efficiency of production of meat and milk. Bovine and porcine somatotropins have both been produced in bacteria following transfer of the appropriate bovine or porcine gene into the production organism. Porcine somatotropin has been

shown in several studies to improve the efficiency of growth in pigs. In addition to this increased efficiency, which should result in lower cost of production for the farmer, porcine somatotropin also improves the quality of the pork produced by lowering fat in the carcass. For the health conscious public, lean pork is an important commercial advantage and therefore has represented a target for conventional breeding schemes for many years.

Bovine somatotropin has been shown in several studies to increase the amount of milk produced per cow by an average of 10-20%, with some cows producing as much as 40% more milk following treatment. The cows consume more feed to support the increased milk production, but the efficiency of production goes up mainly because maintenance costs do not rise to get the increased milk production. For the dairy farmer, bovine somatotropin represents an alternative to slow and often costly breeding programs for efficiency improvements. Such efficiency improvements, resulting in an average per cow increase in milk production of 1% per year over the past 20 years, have been critical to profitability of the dairy industry; but the efficiency improvements have also contributed to the current surplus of dairy products.

Animal health problems have a major negative effect on the efficiency of production of animal products. Several recombinant DNA-derived vaccines for prevention of major animal diseases are currently being marketed or tested. Examples include vaccines against intestinal inflammation and diarrhea in newborn pigs and cows, against foot-and-mouth disease, and against pseudo-rabies in pigs. In some cases, these vaccines are safer alternatives to available conventional vaccines because the recombinant DNA-derived vaccines use only small pieces of the pathogenic organism rather than intact live or killed pathogens. In other cases, no vaccine is currently available. Recombinant DNA products such as copies of proteins produced by an animal's own cells to fight disease, for example interferon or interleukin, may also be important in improving overall animal health and, therefore, productivity.

The above examples describe only a few of the many approaches being taken to use recombinant DNA products for improving animal performance and the quality of animal products. An alternative to producing recombinant DNA products in a microorganism and administering them exogenously to animals is the actual transfer of foreign genes into commercial animal species to improve traits. Such technology has been established in mice, where transfer of extra copies of the somatotropin gene into the chromosomes of mice causes a dramatic increase in growth rate of the new strain of mice (called "transgenic" mice), a trait which then passes to offspring in normal fashion. The somatotropin gene and, more recently, many other genes have been transferred into mice by injection of the genetic material into fertilized embryos. Theoretically, similar technology should be applicable for the transfer of new genes, and therefore new traits, into commercial animal species. In practice, the technology has been used to produce a small number of "transgenic" pigs, sheep, and rabbits; but none of these animals have shown commercially desirable traits. A great deal more basic research on the control of production of gene products in the animal is needed before genetic engineering of domestic animal species will represent a precise way to achieve improvements in commercially important species.

The work on transgenic animals has raised concerns centering on maintenance of the genetic integrity of animal species. In response, it must be kept in mind that man has been shaping domestic animals through centuries of controlled breeding in order to improve the way animal agriculture meets man's needs. Genetic engineering of animal species is merely a tool which will be useful, in the long run, to complement other technologies used by the animal breeder. The outcome of genetic engineering of animals is no different than the outcome of any animal breeding effort. However, genetic engineering represents a faster and more precise methodology for introduction of positive traits into commercial animal species.

In summary, in the area of animal agriculture, recombinant DNA technology can dramatically improve the efficiency of animal production, therefore making the farmer more competitive in the marketplace. Furthermore, the ability to make a given amount of animal product with fewer animals and/or more quickly should allow the farmer to be more flexible in the use of his resources, including environmental resources. Genetic engineering technology can also be used to improve the quality of animal products.

Plant Agriculture

Gene transfer technology has the potential for improving animal production, although technical limitations make practical applications a decade or more away. In the area of plant agriculture, transfer of genes coding for commercially desirable traits into many major crop species is a reality today. This work is focused on three major targets: 1) improving the efficiency of production; 2) improving crop quality; and 3) making agriculture more environmentally friendly. In the area of efficiency of production, traits have been engineered into plants using recombinant DNA technology to improve resistance of the plants to viral diseases and insects. Such resistance traits should minimize crop losses due to these stresses and also lower the use of toxic chemicals to control these problems. Viral and insect resistance have been goals for plant breeders for many years. The use of genetic engineering techniques speeds up the process of getting a desired trait into a particular plant variety and allows for better control over the genetic transfer than occurs with normal genetic exchange (conventional breeding). Many other traits are also targets for genetic engineering to improve productivity, traits such as tolerance to climatic stress and resistance to environmentally-friendly herbicides.

The second major target of plant genetic engineering is the drive for crop quality, for example higher protein plant products, better quality plant oils, and better processing characteristics of plant products. Progress in the area of crop quality is essential if the farmer is to meet demands of health conscious consumers as well as the food processing industry. One example of genetic engineering to produce higher quality plant products is work aimed at alteration of the amino acids found in seeds of crop species, such as beans, in order to make these foods a better protein source for human and animal consumption. Recombinant DNA technology as applied to modifying plant traits will accelerate the development of high quality, high value-added plant varieties.

Contrary to the concerns expressed by critics of genetic engineering, agricultural use of

new plant varieties produced by recombinant DNA technology should be beneficial to the environment in agricultural communities. One example of a potential positive impact on the environment is the use of plant varieties resistant to environmentally-friendly herbicides. A farmer who plants such a crop variety will be able to use very potent, safe, broad-spectrum herbicides to control weeds. Tillage costs and environmental damage, as well as the use of toxic herbicides, should be decreased as a result. Use of plant varieties resistant to insects and other pests will also decrease environmental contamination by toxic chemicals.

As is the case for application of recombinant DNA technology to production of new animal strains, this technology represents a new and very exciting tool for the plant breeder. Instead of being limited by natural barriers that prevent transfer of genes between unrelated species, the scientists and breeders can use recombinant DNA techniques to move a gene from any organism into a crop species. This ability dramatically increases the genetic pool available to breeders and should result in greater crop diversity, an important long range goal. In addition to increasing the genetic pool, recombinant DNA technology allows incorporation of important traits into crop species in a much shorter time than does conventional breeding because genetic engineering involves transfer of only one or a few genes.

An alternative to the use of recombinant DNA technology for gene transfer to produce new, improved crop plant varieties is the use of soil microorganisms to produce products which will improve plant productivity. Many types of soil microorganisms which produce products that are beneficial to plants are found closely associated with plant roots. Perhaps the best known of these systems is Rhizobium bacteria which associate with the roots of leguminous plants, for example peas and beans, and allow these plants to fix nitrogen, thus making their own fertilizer. Recombinant DNA technology can be used to transfer genes into similar root-colonizing microorganisms, providing the microorganisms with the ability to produce a variety of new and beneficial products. For example, the gene coding for a proteinaceous insecticidal protein (BT toxin) can be transferred from Bacillus thuringiensis (BT), a currently marketed bacterial insecticide, into a microorganism which lives on the roots of crop plants. The new microorganism will then produce the insecticidal protein in a continuous fashion exactly where desired, avoiding the need for repetitive applications necessary with the BT product. Other genes coding for proteins which kill a variety of plant pests could be moved into root-associated microorganisms in a similar fashion. Longer range, such microorganisms may also be designed to provided biosynthetic fertilizers, herbicides, etc.

Field testing of microorganisms modified by the addition of marker genes or deletion of deleterious genes has been held up by critics because of possible environmental damage due to release of the new organism. While it is impossible to fully eliminate the risk from release of microorganisms modified by genetic engineering, it is important to remember that genetic exchange as well as mutations occur all the time in nature. Such natural genetic modification of microorganisms occurs in a much more random fashion than introduction or deletion of single genes in the laboratory, yet no environmental damage has been demonstrated from natural gene alterations. Furthermore, microorganisms engineered in the laboratory undergo extensive testing in controlled environments (growth chambers and green-

houses) prior to any field testing. Therefore, the risks to the environment from controlled field testing of such microorganisms should be minimal. If not allowed, an important avenue to improving plant productivity will be closed.

In summary, many of the benefits of the application of genetic engineering technology to plant agriculture parallel the benefits described for animal agriculture. The ability to produce more, higher quality plant products on a given amount of acreage should save the farmer money and give him or her greater flexibility in managing resources. Ultimately, this technology should also result in lower use of expensive, toxic agricultural chemicals through increased plant resistance to stress.

## Conclusions

Public concerns over the use of biotechnology in agricultural applications center on fears that release of genetically altered organisms into the environment could result in major environmental problems. Examples are cited such as kudzu vine and the gypsy moth, where introduction of these species into new environments caused problems. However, such examples must be put into perspective with the thousands of introduced species (for example most domestic animals and plants in the United States) which have had enormous benefits for man and which present no perceived problems. Other concerns center on violation of the integrity of commercial species, resulting in negative traits which may arise some time after the new variety of plant or animal is being used for commercial production. Such negative traits may certainly arise from genetic engineering of plants or animals, but they are just as likely to arise from genetic transfer between organisms in the wild or in the hands of conventional breeders.

It is easy to argue, living in a country where agricultural productivity greatly outstrips needs and surpluses of produce abound, that increasing agricultural productivity is not important and therefore why take the risk of using any new technology in this area. The response is straightforward. If innovative technologies are utilized now, the agricultural industry will be able to meet future needs without increasing environmental damage due to cultivation of new land. Food surpluses of today will quickly become food insufficiencies of the future as the world's population doubles in the next 30 years. The outcome of the debate we face today of whether to allow testing and use of the innovative new "biotechnologies" to improve agricultural production will be critical to maintaining, let alone improving, the quality of life on this planet for future generations.

# BIOTECHNOLOGY: PATENT LAW AND LEGAL IMPLICATIONS

Mr. Roman Saliwanchik

Mr. Roman Saliwanchik, presently residing in Gainesville, Florida, was a long-time resident of Richland, Michigan. Mr. Saliwanchik has worked for the last quarter of a century as a patent attorney. He has been in a private practice specializing in biotechnology for the last four years. Prior to that, he spent twenty-two years at Upjohn Corporation as a patent attorney.

Mr. Saliwanchik was awarded the degree of Doctor of Jurisprudence at the University of Indiana in 1961. Before his career as a patent attorney he worked for nine years as a scientist at the Eli Lilly Company at the beginning of the "antibiotic era." Mr. Saliwanchik's work keeps him in touch with academic and industrial scientists as well as individual inventors.

The broad topic is "biotechnology"; the focus here will be on the activities of the patent system, with primary emphasis on the United States, and legal implications of this fusion of science and law. Initially, an understanding of the metes and bounds of biotechnology is essential.

Biotechnology is a term defining a broad range of science. Historically, biotechnology was used, for example, to make foods, such as bread, cheese, and sauerkraut; and to make vaccines, antibiotics, and enzymes. Thus, this broad range encompasses food, medicines and industrial applications. Agricultural applications comprise nitrogen fixation bacteria and microbial herbicides. In short, biotechnology has touched the lives of all of us; many times without our knowledge, and appreciation.

In recent years biotechnology has become known to more people because of the sophisticated work done in molecular biology. Molecular biology advances make possible the acceleration of changes in the genetic makeup of microbes, plants and animals. In humans, molecular biology holds promise in rectifying destructive genetic defects and curing heretofore incurable viral diseases.

The present state of biotechnology relative to human application is very dynamic; new advances are being reported almost monthly. Most of these advances are being realized because of inventions in molecular biology coupled with existing knowledge in other areas of biotechnology and medicine.

A most interesting area of present research concerns means for controlling and eradicating the horrifying affliction known as AIDS (acquired immune deficiency syndrome). The disease has been shown to be transmitted by a virus known as HTLV-III.[1] Research has shown that there are variants of this virus.[2] This fact may make the control of this affliction a very difficult goal to achieve.

Current research focuses on "old" chemicals to treat AIDS patients in an attempt to forestall the ultimate result realized by virtually all AIDS patients--death.[3] Research also is proceeding to produce a vaccine which would then be used to prevent the acquiring of the disease. This area of vaccine research utilizes the tools of molecular biology to produce various antigenic fragments which give rise to antibodies to the HTLV-III virus.[4]

Vaccines have not had a favored position in the medical arsenal in recent times. The primary reason that vaccines have not advanced as a major tool in many disease prevention protocols appears to be the always-present possibility of a patient being given the disease by the vaccine. Vaccines have historically been made by attenuating the disease microbe, generally a virus, and then using the attenuated microbe in a vaccine formulation. In the case of AIDS, it is believed that few people would accept an attenuated AIDS vaccine. Cometh the advances in molecular biology, and we now have a means for making a vaccine free of attenuated microbes.[5]

The vaccines of today's research focus on antigenic fragments of the disease-causing microbe. In the case of the AIDS-causing HTLV-III virus, the emphasis has been on using

portions of the virus coat to give rise to neutralizing antibodies to the HTLV-III virus.[6] The research in this area if proceeding at a feverish pace with various governments throughout the world cooperating with and supporting academic and industrial research. Without the most recent entry of molecular biology advances, the world could very well be faced with a demise of all societies. With the tools of our up-to-date biotechnology, there is hope of solving this life-taking disease.

Other biotechnological advances in molecular biology include the preparation of a variety of proteins discovered to be produced in minute amounts by the human body. These proteins, such as human growth hormone, tissue plasminogen activator, interferons, and interleukins, promise to occupy a formidable part of the medical armamentarium of the future.[7] Current results on tissue plasminogen activator show great promise in the controlled use of this protein in cardiovascular diseases. By use of molecular biology techniques, these proteins are now available in sufficient quantity to allow for suitable testing, development, and ultimate medical use.

Another area of biotechnology which is already on the commercial and medical scene is the use of monoclonal antibodies.[8] Monoclonal antibodies are being used extensively to assay for a variety of disease microbes and antigens present in clinical specimens. The specificity of the monoclonal antibody allows for a highly reliable diagnosis of disease microbes and antigens.

The above is merely a capsule of the presence of biotechnology in treating and solving many of the disease problems associated with our lives. Biotechnology is also instrumental in helping us prepare better foods at an affordable price. The use of a genetically engineered microbe to inhibit the formation of frost on potatoes, strawberries, and other crops is still in the wings after various delays instigated by environmental groups.[9] Once the environmental issues are resolved, it is expected that this genetically-engineered microbe will be a significant benefit to agriculture.

Microbial herbicides are also on the brink of making a big impact on the agricultural scene. These herbicides, advantageously, do not cause the many environmental problems associated with the use of chemical herbicides to control undesirable weeds.[10] After some 30 to 40 years of heavy agricultural use of chemical herbicides there is now evidence that significant ground water contamination has occurred. The use of microbial herbicides alone, or in mixture with lower levels of chemical herbicides, is expected to alleviate the environmental problems without adversely affecting the economics in agriculture.

Microbial insecticides have achieved a high status in agriculture and other areas where the control of undesirable insects is necessary, or at least desirable. For example, strains of the microbe Bacillus thuringiensis have been found useful to control mosquitos and a variety of insects which pester the farmer and reduce the profits in agriculture.[11] However, the use of a genetically-engineered microbe to treat corn seedlings for the purpose of controlling black cutworms has been held up pending governmental approval.[12] The engineered microbe was altered by inserting a gene obtained from a B. thuringiensis strain. Once the gene is

inserted into a microbe normally found in the soil, the altered microbe produces a toxin which inhibits the undesirable insect. As with the genetically-engineered microbe which inhibits the formation of frost on desirable crops, it is expected that this microbial insecticide will be a valuable asset in agriculture in the future.

Having explored some of the areas of biotechnology which are important to virtually all of us in one way or another, let us now see how the patent system receives this dynamic technology. Without delving into the intricacies of the patent system, it can be stated that the system is working for a good share of the technology, but much remains to be done. Patents in the United States are being granted for a wide assortment of biotechnology inventions useful in the diagnostic and laboratory portions of the field. Examples of some of these patents are as follows:*

Diagnostic Patents

| Patent No. | Year Issued | Nature of Invention |
|---|---|---|
| 4599305 | 1986 | Method and Composition for Detection of Human Chronic Myelogenous Leukemia |
| 4595661 | 1986 | Immunoassays and Kits for Use Therein Which Include Low Affinity Antibodies for Reducing the Hook Effect |
| 4584278 | 1986 | Antigen Derived from Human Ovarian Tumors and Radioimmunoassay Using the Antigen |
| 4582699 | 1986 | Assay of Immunoglobulin A Protease and the Rapid Diagnosis of Gonorrhea |
| 4563420 | 1986 | Process for Assaying the Activity of Tissue Plasminogen Activator, and Kit Suitable for Use in Said Process |
| 4563419 | 1986 | Detection of Microbial Nucleic Acids by a One-Step Sandwich Hybridization Test |
| 4471057 | 1984 | Detection of Colorectal Carcinoma |
| 4334017 | 1982 | Method for Detecting Cancer in Mammalian Tissue |

*Copies of patents, ordered by the patent number can be obtained for $1.50 each from the Commissioner of Patents and Trademarks, Washington, D.C. 20231. Checks should be made payable to the Commissioner of Patents and Trademarks.

Laboratory Procedures

| | | |
|---|---|---|
| 4487835 | 1984 | Plasmid Having Temperature Dependent Plasmid Copy Number |
| 4476227 | 1984 | Cosmid Cloning Vectors |

Patents are also being granted concerning monoclonal antibodies, microbial herbicides and microbial insecticides. Examples of such patents are as follows:

Monoclonal Antibody Patents

| Patent No. | Year Issued | Nature of Invention |
|---|---|---|
| 4599306 | 1986 | Monoclonal Antibodies Which Specifically Bind to Human Immune Interferon |
| 4579827 | 1986 | Monoclonal Antibodies to Human Gastro-intestinal Cancers and Hybridoma Method of Production of the Monoclonal Antibodies |
| 4558005 | 1985 | Monoclonal Anti-Erythropoietin |
| 4550086 | 1985 | Monoclonal Antibodies That Recognize Human T Cells |
| 4,522,918 | 1985 | Process for Producing Monoclonal Antibodies Reactive with Human Breast Cancer |

Microbial Herbicide and Insecticide Patents

| Patent No. | Year Issued | Nature of Invention |
|---|---|---|
| 4390360 | 1983 | Control of Sicklepod, Showy Crotalaria, and Coffee Senna with *Alternaria cassiae* |
| 3999973 | 1976 | Control of Prickly Sida and Other Weeds with *Colletotrichum malvarum* |
| 3849104 | 1974 | Control of Northern Jointvetch with *Colletotrichum gloeosporioides* Penz. *aeschynomene* |
| 4574083 | 1986 | Isolates of *Pythium* Species Which Are Antagonistic to *Pythium ultimum* |
| 4609550 | 1986 | *Bacillus cereus* subspecies *israelensis* Toxic to Diptera Larvae |

Cleaning up the chemical contamination of the environment is a major effort throughout the world. Biotechnology inventors and the patent system are actively trying to solve this

complex problem. Examples of patents issued in this area are as follows:

Environmental Cleanup Patents

| Patent No. | Year Issued | Nature of Invention |
|---|---|---|
| 4593003 | 1986 | Bacterial Method and Compositions for Isoprenoid Degradation |
| 4556638 | 1985 | Microorganism Capable of Degrading Phenolics |
| 4554075 | 1985 | Process of Degrading Chloro-Organics by White-Rot Fungi |
| 4535061 | 1985 | Bacteria Capable of Dissimilation of Environmentally Persistent Chemical Compounds |
| 4521515 | 1985 | Bacterial Strain for Purifying Hydrocarbons Pollution and Purification Process |
| 4511657 | 1985 | Treatment of Obnoxious Chemical Wastes |
| 4274955 | 1981 | Process for the Degradation of Cyanuric Acid |

The above patents are merely examples of the activity in the biotechnology patent arena. The questions might be asked, what does this patent activity mean and how does this patent activity add to the value of life in our society?

Patent activity in the biotechnology sector of science means, first of all, that patentable inventions are being made in this area. Without the creative efforts of the biotechnology scientists, the need for patents in this art would be nil. Patentable inventions first, patents next.

Patents are a means chosen by the U.S. Congress to encourage the disclosure of inventions to the public. The disclosure of inventions to the public stimulates further advances in the science to which the inventions pertain. This is a fact which has been proven time and again. There is no quarrel that patents benefit the public. In some cases, where a patentee can exploit the invention commercially, the patentee is rewarded for disclosing the invention to the public. However, it should be recognized that only a small percentage of issued patents cover commercii lly-used processes or products. Thus, it is clear that the public is the biggest benefactor of the patent system in learning of these front-line advances in the science. With knowledge of these advances, inventors in the public can go forward to make new inventions. Without knowledge of these advances, which would generally be the case where no patent system or an ineffective patent system exists, the inventors in the public would have to start further back in the invention trail to make new advances. Accordingly, it behooves the public to lend its support to the patent system.

With the continued existence of a strong patent system, the biotechnology scientists will

continue to be motivated to make biotechnology inventions and obtain patents. Even though the success rate is low for commercializing patented inventions, the lure is still there, for the rewards of a marketable invention can be great; so great that the scientist can fund further research and work toward solving other problems plaguing society.

Without a patent system, there would still be research by dedicated scientists, if they could afford to do so. Whether we like it or not, research is a very expensive business. The enormity of the problems needing to be solved is not in itself enough to support necessary research; there must be a source of funding.

Much research in biotechnology is conducted by businesses employing highly skilled scientists. The continued existence of these businesses is dependent on profits, and patents can contribute significantly toward this end. Thus, it is to the benefit of all that biotechnology businesses keep operating and that scientists keep searching for answers to problems. If this chain is broken, the many problems that face our society in curing diseases, producing food, and cleaning the environment will continue to everyone's distress.

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2. Research News, Science 233:1149-1153 (1986).

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4. See: "The Race to Develop Vaccine Against AIDS Mobilizes Researchers," The Wall Street Journal, Sept. 3, 1984, pp. 1, 23; Science, 233:1149-1153 (1986).

5. "A Shot in the Arm for Vaccine Makers," Business Week, Aug. 4, 1986, pp. 29-32; See also Science 233:1035 (1986).

6. Hu, S.-L., Kosowski, S.G. and Dalrymple, J.M. "Expression of AIDS virus envelope gene in recombinant vaccinia viruses," Nature 320:537-540 (1986).

7. See: Review article "Our Immune System," National Geographic 169 (6):702-734 (1986).

8. Kohler, G. "Derivation and Diversification of Monoclonal Antibodies," Science 233: 1281-1286 (1986).

9. "Lindow Microbe Test Delayed by Legal Action Until Spring," Science 233:1034 (1986). See also Palca, J. "Another turn for ice-minus bugs," Nature 321:190 (1986). Perhaps the delay tactics of some environmental groups will be handled differently in view of Judge Gerhard Gesell's decisions in recent cases. See The Wall Street Journal, January 26, 1987, p. 18.

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11. Walton, S. "Biocontrol Agents Prey on Pests and Pathogens," BioScience 30 (7): 445-447 (1980); see also Luthy, P. and Arif, B.M. "Designing Microorganisms for Insect Control, " BioEssays 2 (1): 22-25 (1985).

12. "Gene-altered pesticide test may be delayed," Chemical & Engineering News, Apr. 7, 1986, p. 5.

# ETHICAL CONSIDERATIONS OF HUMAN GENE THERAPY

W. French Anderson, M.D.

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After a short stint as a member of the junior faculty at the Harvard Medical School he began his career at the National Institutes of Health. Since 1967 he has dedicated himself to the study of genes, gene expression, the transfer of genes in the cells and the transfer of genes into animals. He is deeply concerned with both the science and the ethics of human gene therapy and the more general "enhancement" of genetic characteristics.

## Introduction

Genetic engineering for the insertion of a gene into a human being could, in theory, be carried out in four different ways:[1]

1. Somatic cell gene therapy: resulting in the correction of a genetic disorder in the somatic (i.e., body) cells of a patient.

2. Germ line gene therapy: resulting in the insertion of the gene into the reproductive tissue of the patient in such a way that the disorder in his/her offspring would also be corrected.

3. Enhancement genetic engineering: resulting in the insertion of a gene in a normal individual with the intention of enhancing a known characteristic; for example, the placing of an additional growth hormone gene into a normal child or fetus.

4. Eugenic genetic engineering: resulting in the attempt to alter or "improve" complex human traits, each of which is coded by a large number of genes; for example, personality, intelligence, character, formation of body organs, and so on.

## Somatic Cell Gene Therapy

There are many examples of genes that, when defective, produce serious or lethal disease in a patient. Gene therapy should be beneficial primarily for the replacement of a defective or missing enzyme or protein that must function inside the cell that makes it, or of a defective or missing enzyme whose absence leads to a buildup of a toxic level of a normal metabolite (e.g., as in the disease phenylketonuria (PKU), or of a deficient circulating protein whose level does not need to be exactly regulated (e.g., blood clotting factor VIII, which is deficient in hemophilia). The initial candidates for gene therapy would need to satisfy several requirements. First, because this is a new unproven therapy with, therefore, uncertain risks, the initial diseases ought to be severe genetic disorders leading to significant suffering and/or premature death. Thus the benefit/risk ratio would potentially be much higher than for mild disorders. Second, the disease should be correctable by treatment of the bone marrow cells, since the bone marrow is the only tissue that can easily be removed from a patient, treated ex vivo, and then returned to the patient. Third, the defect should be in the gene for an enzyme with simple regulation, not a protein like hemoglobin where relatively complex controls are involved. And fourth, the normal gene would need to have been isolated.

The most likely gene to be used in the first experiments attempting human gene therapy is adenosine deaminase (ADA), the absence of which results in severe combined immunodeficiency disease (in which children have a greatly weakened resistance to infection and cannot survive the usual childhood diseases). In ADA deficiency, the clinical syndrome is profoundly debilitating. The disorder is found in the patient's bone marrow, and there is no, or minimal, detectable enzyme in marrow cells from patients who have no copies of the normal gene. In these patients, the production of a small percentage of the normal enzyme

level should be beneficial, and a mild overproduction of enzyme should not be harmful. In addition, the normal gene has been isolated and is available. Furthermore, severe combined immunodeficiency due to a defect in the ADA gene can be corrected by infusion of normal bone marrow cells from a histocompatible donor. Therefore, selective replication of the normal marrow cells appears to take place. This observation offers hope that defective bone marrow can be removed from a patient, the normal ADA gene inserted into a number of cells through gene therapy, and the treated marrow reimplanted into the patient where it may have a selective growth advantage. If selective growth occurs, elimination of the patient's own marrow would not be necessary. If, however, corrected marrow cells have no growth advantage over endogenous (i.e., the patient's own untreated) cells, then partial or complete marrow destruction (by either irradiation or other means) may be required in order to allow the corrected marrow cells an environment favorable for expansion. The latter situation would require much greater confidence that the gene therapy procedure would work before a clinical trial should be undertaken.

The ethics of gene therapy in humans has been discussed for many years and is being widely debated at present.[2-9] Essentially all observers have stated that they believe that it would be ethical to insert genetic material into a human being for the sole purpose of medically correcting a severe genetic defect in that patient, in other words, somatic cell gene therapy. Attempts to correct a patient's reproductive cells (i.e., germ line gene therapy) or to alter or improve a "normal" person by gene manipulation (i.e., enhancement or eugenic genetic engineering) are controversial areas. However, somatic cell gene therapy for a patient suffering a serious genetic disorder would be ethically acceptable if carried out under the same strict criteria that cover other new experimental medical procedures. The techniques now being developed by clinical investigators for human application are for somatic cell, not germ line, gene therapy.

What criteria should be satisfied before somatic cell gene therapy is tested in a clinical trial? Three general requirements, first presented in 1980,[10] are that it should be shown in animal studies that 1) the new gene can be put into the correct target cells and will remain there long enough to be effective, 2) the new gene will be expressed (i.e., function) in the cells at an appropriate level, and 3) the new gene will not harm the cell or, by extension, the animal. These three requisites, summarized as delivery, expression, and safety, are examined below.

These criteria are very similar to those required prior to the use of any new drug, therapeutic procedure, or surgical operation. The requirements simply state that the new treatment should get to the area of disease, correct it, and do more good than harm. The exact definitions of what is "long enough to be effective," what is "an appropriate level," and how much harm is meant by "harm" are questions for ongoing discussion as more is learned about gene therapy. Ultimately, local institutional review boards and the National Institutes of Health (NIH), the latter through the Recombinant DNA Advisory Committee (RAC) with its Human Gene Therapy Subcommittee, must decide if a given protocol is ready for human application. Once the criteria are satisfied, that is, when the probable benefits for the patient are expected to exceed the possible risks, then attempts to cure human genetic disease by treatment with somatic cell

therapy would be ethical.[2,3] The goal of biochemical research is, and has always been, to alleviate human suffering. Gene therapy is a proper and logical part of that effort.

Delivery

At present, the only human tissue that can be used effectively for gene transfer is bone marrow. No other cells can currently be extracted from the body, grown in culture to allow insertion of exogenous genes, and then successfully reimplanted into the patient from whom the tissue was taken. In the future, as more is learned about how to package the DNA and to make it tissue specific, the intravenous route would be the simplest and most desirable. However, attempting to give a foreign gene by injection directly into the bloodstream is not advisable with our current state of knowledge since the procedure would be enormously inefficient and there would be little control over the DNA's fate.

Bone marrow consists of a heterogeneous population of cells, most of which are committed to differentiate into red blood cells, white blood cells, platelets, and so on. Only a small proportion (0.1-0.5%) of nucleated bone marrow cells are stem cells (that is, blood-forming cells that have not yet differentiated into specific cell types and that divide as needed to maintain the marrow population). In gene therapy, it would be these rare, unrecognizable stem cells that would be the primary target. Consequently, a delivery system useful for gene therapy must be efficient.

Several techniques for transferring cloned genes into cells have been developed.[11] At present the most promising approach for gene transfer into humans employs retrovirus-based vectors carrying exogenous genes.

Vectors derived from retroviruses possess several advantages as a gene delivery system. First, up to 100% of cells can be infected and can express the integrated viral (and exogenous) genes. Second, as many cells as desired can be infected simultaneously; $10^6$ to $10^7$ is a convenient number for a simple protocol. Third, under appropriate conditions, the DNA can integrate as a single copy at a single, albeit random, site. Finally, the infection and long-term harboring of a retroviral vector usually do not harm cells. Several retroviral vector systems have been developed; those projected for human use at the present time are constructed from the Moloney murine (mouse) leukemia virus. Evidence obtained from studies with experimental animals and in tissue culture indicates that retroviruses can be used as a reasonably efficient delivery system.[12-15]

Is there a place for initiating gene therapy in the fetus rather than waiting for the child to be born? There are a number of diseases, particularly involving the central nervous system, in which irreversible damage may already have occurred by the time of birth. If a vector could be developed that could safely be inserted into the central nervous system directly, or that could bypass the blood-brain barrier following its introduction into the fetal circulation, then it might be possible to salvage those fetuses that are now doomed to irreversible damage before birth.

## Expression

In order for gene therapy to be successful, there must be appropriate expression of the new gene in the target cells. Even when a delivery system can transport an exogenous gene into the DNA of the correct cells of an organism, it has been a major problem to get the integrated DNA to function. A vast array of cloned genes have been introduced into a wide range of cells by several gene transfer techniques, but "normal" expression of exogenous genes is the exception rather than the rule.[11]

Expression of exogenous genes carried by retroviral vectors into intact animals via treated bone marrow cells has now been reported by a number of laboratories. Most studies have demonstrated the expression of an antibiotic resistance gene in mice.[13-15] Our laboratory has also demonstrated low levels of expression of the human ADA gene in the bone marrow cells of lethally irradiated nonhuman primates that were reinfused with their own bone marrow cells after the cells had been treated in vitro with an ADA retroviral vector.[16] These reports provide hope that vectors can be built with all the regulatory signals necessary to produce correctly controlled expression of exogenous genes in target cells in vivo.

## Safety

Finally, a human gene therapy protocol must be safe. Although retroviruses have many advantages for gene transfer, they also have disadvantages. One problem is that they can rearrange their own structure, as well as exchange sequences with other retroviruses. There is the possibility that a retroviral vector might recombine with an endogenous viral sequence to produce an infectious recombinant virus. Properties that such a recombinant would have are unknown, but there is a potential homology between retroviral vectors and human T-cell leukemia viruses so that the formation of a recombinant that could produce a malignancy is a possibility. There is, however, a built-in safety feature with the mouse retroviral vectors now in use. These murine structures have a very different sequence from known human retroviruses, and there appears to be little or no homology between the two. Therefore, it should be possible, with continuing research, to build a safe retroviral vector.

## Conclusion

It now appears that effective delivery-expression systems are becoming available that will allow reasonable attempts at somatic cell gene therapy. The first clinical trails will probably be carried out within the next two years. The initial protocols will probably be based on treatment of bone marrow cells with retroviral vectors carrying a normal gene. The efficiency and safety of the procedures are the remaining issues. Patients severely debilitated by having no normal copies of the gene that produces the enzyme ADA are the most likely first candidates for gene therapy.

It is unrealistic to expect a complete cure from the initial attempts at gene therapy. Many patients who suffer from severe genetic diseases, as well as their families, are eager to participate in early clinical trials even if the likelihood is low that the original experiments will

alleviate symptoms. However, for the protection of the patients (particularly since those with the most severe diseases and, therefore, the most ethically justifiable first candidates are children), gene therapy trials should not be attempted until there are good animal data to suggest that some amelioration of the biochemical defect is likely. Then it would be necessary to weigh the potential risks to the patient, including the possibility of producing a pathologic virus or a malignancy, against the anticipated benefits to be gained from the functional gene. This risk-to-benefit determination, a standard procedure for all clinical research protocols, would need to be carried out for each patient.

In summary, institutional review boards and the NIH should carefully evaluate therapeutic protocols to ensure that the delivery system is effective, that sufficient expression can be obtained in bone marrow cultures and in laboratory animals to predict probably benefit, even if small, for the patient, and that safety protocols have demonstrated that the probability is low for the production of either a malignant cell or a harmful infectious retrovirus. Once these criteria are met, I maintain that it would be unethical to delay human trials. Patients with serious genetic diseases have little other hope at present for alleviation of their medical problems. Arguments that genetic engineering might someday be misused do not justify the needless perpetuation of human suffering that would result from an unnecessary delay in the clinical application of this potentially powerful therapeutic procedure.

## Germ Line Gene Therapy

The second way that genetic engineering could be used to insert genes into humans, gene therapy of germ line cells, would require a major advance in our current state of knowledge. It would require that we learn not only how to insert a gene into the appropriate cells of the patient's body but also how to introduce it into the germ line of the patient in such a way that it would be transmitted to offspring and would be functional in the correct way in the correct cells in the offspring. With the small amount of information now available from animal studies, the step from correction of a disorder in somatic cells to correction of the germ line would be difficult.

Germ line transmission and expression of inserted genes in mice have been obtained by several laboratories but with a technique that is not acceptable for use in human patients, namely, the physical microinjection of fertilized eggs.

Even when the technical capability becomes available to attempt germ line gene therapy in humans, there are major medical and ethical concerns to consider. The medical issues center primarily around the question: will the transmitted gene itself, or any side effects caused by its presence, adversely affect the immediate offspring or their descendants? Since in this case one must study several generations of progeny to obtain answers, it will clearly take longer to gain knowledge from animal studies on the long-term safety of germ line gene therapy than on somatic cell gene therapy.

Germ line therapy deserves careful ethical consideration well in advance of the time when the technical capability for carrying it out arrives. The critical ethical question is: should

a treatment which produces an inherited change, and could therefore perpetuate in future generations any mistake or unanticipated problems resulting from the therapy, ever be undertaken?

What criteria would be needed to justify the use of this unique type of therapy? At least three conditions should be met, I maintain, prior to the time that germ line gene therapy is attempted in human beings.

First, there should be considerable previous experience with somatic cell gene therapy that clearly establishes the effectiveness and safety of treatment of somatic cells. There is a wide range of biological variability among humans. Even if the first few patients treated by somatic cell therapy are helped, the next ones may not be, or may even be harmed. Therefore, extensive experience with many patients over a number of years will be necessary before somatic cell therapy can properly be judged to be safe and effective. If somatic cell therapy has not become highly efficient with very minimal risks, germ line gene therapy should not be considered.

Second, there should be adequate animal studies that establish the reproducibility, reliability, and safety of germ line therapy, using the same vectors and procedures that would be used in humans. Of greatest importance would be the demonstration that the new DNA could be inserted exactly as predicted and that it would be expressed in the appropriate tissues and at the appropriate times. It should be remembered that gene therapy does not remove or correct the defective genes in the recipient; it only adds a normal gene into the genome. It is not now known what the influence of this combination of defective and normal genes may be on the developing embryo. Might the regulatory signals still associated with the non-functional genes adversely affect the regulation of the exogenous gene during development?

Third, there should be public awareness and approval of the procedure. New drugs, medical regimens, and surgical techniques certainly do not require individual public approval prior to their initiation. There are already regulatory processes in place that insure the protection of human subjects (this issue has been addressed in a previous publication.[10] Somatic cell gene therapy is receiving widespread public attention, but prior public approval is not being specifically sought. Germ line gene therapy, however, is a different and unique form of treatment. It will affect unborn generations and has, therefore, a greater impact on society as a whole than treatment confined to a single individual. The gene pool is a joint possession of all members of society. Since germ line therapy will affect the gene pool, the public should have a thorough understanding of the implications of this form of treatment. Only when an informed public has indicated its support, by the various avenues open for society to express its views, should clinical trials begin. In vitro fertilization, surrogate motherhood, animal organ transplants into humans, holistic treatment of cancer, and other controversial medical procedures can take place based on the decision of the patient (with his/her doctor and/or family) whether society as a whole approves or not. But the decision to initiate germ line gene therapy demands assent from more than the individual involved, since the effects go beyond that individual. If and when germ line therapy is approved by society for clinical

trials, then the decision to apply it in any individual case again should be made privately by the patient with his/her doctor.

In conclusion, my position is that germ line therapy, since it is the correction of a genetic defect (albeit in the future), would be ethical and appropriate if the three conditions discussed above were met.

## Enhancement Genetic Engineering

The third use of genetic engineering, enhancement genetic engineering, is considerably different in principle from the first two. This is no longer therapy of a genetic disorder; it is 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. Enhancement would involve the insertion of a single gene, or a small number of genes, that code for a product (or products) that would produce the desired effect-for example, greater size through the insertion of an additional growth hormone gene into the cells of an infant or fetus. Enhancement genetic engineering presents a major additional scientific hurdle, as well as serious new ethical issues.

The scientific hurdle to be overcome is formidable. Until now, we have considered the correction of a defect, of a "broken part," if you will. Fix the broken part and the human machine should operate correctly again. Replacing a faulty part is different from trying to add something new to a normally functioning system. To insert a gene in the hope of improving or selectively altering a characteristic might endanger the overall metabolic balance of the individual cells as well as of the entire body. Medicine is a very inexact science. Every year new hormones, new regulators, and new pathways are discovered. There are clearly many more to be discovered. Most impressive is the enormously intricate way that each cell corrdinates within itself all of its thousands of pathways. Likewise, the body as a whole carefully monitors and balances a multitude of physiological systems. Much additional research will be required to elucidate the effects of altering one or more major pathways in a cell. To correct a faulty gene is probably not going to be dangerous, but intentionally to insert a gene to make more of one product might adversely affect numerous other biochemical pathways.

We possess insufficient information at present to understand the effects of attempts to alter the genetic machinery of a human. Is it wise, safe, or ethical for parents to give, for example, growth hormone (now that it is readily available) to their normal sons in order to produce very large football or basketball players? Unfortunately, this practice is reported to take place in this country now. But even worse, why would anyone want to insert a growth hormone gene into a normal child? Once it is in, there is no way to get it back out. The child's reflexes, coordination, and balance might all be grossly affected. In addition, even more serious questions can be asked: Might one alter the regulatory pathways of cells, inadvertently affecting cell division or other properties? In short, we know too little about the human body to chance inserting a gene designed for "improvement" into a normal healthy person.

## Eugenic Genetic Engineering

The fourth level is eugenic genetic engineering. This area has received considerable attention in the popular press, with the result that at times unjustified fears have been produced because of claims that scientists might soon be able to remake human beings. However, traits such as personality, character, formation of body organs, fertility, intelligence, and physical, mental, and emotional characteristics are enormously complex. Dozens, perhaps hundreds, of unknown genes that interact in totally unknown ways probably contribute to each such trait. Environmental influences also interact with these genetic backgrounds in poorly understood ways. With time, as more is learned about each of these complex traits, individual genes that play specific roles will be discovered. Undoubtedly, disorders that are caused by defects in these genes will be recognized. Then, somatic cell gene therapy could be employed to correct the defect. But the concept of "remaking a human" (i.e., eugenic genetic engineering) is not realistic at present.

## Conclusion

In summary, somatic cell gene therapy for human genetic disease should be possible in the near future. The scientific basis on which this new therapeutic approach is founded has been thoroughly documented in a number of publications, as has the ethical justification for its use. Germ line gene therapy is still in the future, but the technical ability to carry it out will almost certainly be developed. Society must determine if this therapeutic option should be used. Enhancement genetic engineering should also be possible, and its medical and disturbing ethical implications need continuing discussion. Eugenic genetic engineering, in contrast, is purely theoretical and will, from a practical standpoint, be impossible for the foreseeable future. The topic is valuable for reflective thinking but not for scientific discussion.

Many of the fears generated by some articles in the popular press that discuss "gene therapy" or "genetic engineering" are unfounded. Insertion of single functional genes should soon become possible, but claims that new organs, designed personalities, master races, or Frankenstein monsters will be created can be given no credence in the light of what is currently known. Even so, we should be concerned about the possibility that genetic engineering might be misused in the future. The best insurance against possible abuse is a well-informed public. Gene therapy has the potential for producing tremendous good by reducing the suffering and death caused by genetic diseases. We can look forward to the day when, with proper safeguards imposed by society, this powerful new therapeutic procedure will be available.

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# BIOTECHNOLOGY AND THE COURTS

Judge Charles Blackmar

Judge Charles Blackmar is a graduate of Princeton University and of the University of Michigan Law School. Judge Blackmar served with distinction in the Army, winning the Silver Star, Purple Heart, Bronze Star and Combat Infantry Badge. He practiced general law in Kansas City, Missouri for 18 years. Following this, Judge Blackmar was a member of the faculty of the Law School at Saint Louis University from 1966 to 1982.

Judge Blackmar has worked in several different aspects of the legal profession. He was appointed judge of the Supreme Court of Missouri by Governor Christopher Bond and assumed office in December 1982. He was subsequently retained in office for a twelve year term in 1984. Judge and Mrs. Blackmar currently reside in Jefferson City and Moberly, Missouri.

My field is law, not biotechnology, but when the courts deal with biotechnological problems they will approach them in the same way that they approach other problems. So I thought it would be helpful to begin with something which is more familiar. The courts are used to applying familiar techniques to unfamiliar problems. Sometimes this is unfortunate, in that it may lead to mechanical solutions which are not appropriate for problems for which they are not designed. But the familiar should provide a starting point.

It is suggested that courts are not well equipped to decide problems involving technology and human relationships. In some of the papers I have examined in preparation for this undertaking, I found that learned professors are prone toward sharp criticism of the judges who tried to solve novel problems. Criticism is the proper function of academics, and can be of great value to those who are on the receiving end. But it is the judge who has to make the decisions, and he has to do this relatively quickly. A decision to do nothing, or to "throw the case out of court", is nonetheless a decision. A delayed decision is different from a timely decision. We judges are often called upon to realize that "the buck stops here."

## 1. Child Custody

For years courts have had to deal with problems of child custody between parents, as an incident of divorce or (now rarely) separate maintenance litigation. It may be argued that judges have no particular training for, or wisdom in, making these decisions, but the decisions nonetheless have to be made. The decisions relate to agonizing problems, with emotions running high. More such decisions must be made in the present setting, because of the many divided families, and the unfortunate tendency to assume that marital dissolution is not unusual. If the parties cannot agree, then the court has to decide which parent is to have custody, what rights of visitation there shall be, and how the rights are to be effectuated. The judge has to intrude into intimate family matters in order to make the necessary decisions.

After custody decisions are made, there is the problem of modification. Is the custodial parent to be allowed to move to another state? What are the remedies when visitation rights are not afforded as required by the decree? May visitation rights be lost or suspended if support payments are in arrears? What solution should there be when the custodial parent dies? There are frequent contests between an estranged father and the deceased mother's parents or siblings.

This is not our main subject, but it serves to illustrate the numerous decisions which a court must make, with rather poor background and expertise, in an emotionally charged complex. To one party the judge may appear halting and tentative; to the other the appearance is one of tyrannical interference. Our courts used to hold that grandparents could not be awarded visitation rights in dissolution proceedings.[1] The legislature of our state reversed this decision, and now such rights exist.[2] I don't know what other states hold on this problem. The courts have to make decisions with the equipment they have, subject to review by the political authorities.

## 2. Termination of Custody, and Adoption

Even more agonizing than a decision as to which of two willing parents is to have custody

is a decision as to whether a parent's custodial rights are to be terminated -- whether it is to be held that the child, in contemplation of law, is no longer the child of one or both of the natural parents.[3] A court, in this instance, makes a decision which is against nature. The decision is particularly unnatural if the child is perfectly aware of who his or her true mother or father is. Such decisions are made everyday.

Some adoptions, of course, are made on an amicable basis. A mother will sometimes be willing to give up her child which she is not able to care for, or may be unwilling to devote her life to an unwanted child. A decision to do this is often difficult and agonizing from the mother's standpoint, but that circumstance does not figure in the judicial proceedings. In other instances, a child has no natural parents, or has only a father who cannot be located, and the decision to allow an adoption is relatively easy. There is a general agreement that children are not to be the subject of commercial traffic, and prospective adoptive parents who are found to have paid money to get a child in their home may find the child taken away from them, simply because they paid money to get the child. When the child is placed with a family, and the family is able to achieve a satisfactory relationship, adoption presents no legal problems. I have heard it said that adopted children feel the need to know about their biological parents, and sometimes parents appear after many years and make themselves known, but the legal status is fixed by the adoption.

The unwilling termination presents many more problems. If a child shows signs of abuse and neglect there may be a petition by a public official to take the child away from its parent or parents, and make the child a ward of the court.[4] The initial severance may be temporary or permanent. The court may feel that there are correctable situations, as when a child has been abused by a step-parent and the true parent agrees to separate from the abuser. Or a child may be placed in a foster home while the parent or parents struggle to mend their home situation, as by finding satisfactory quarters and employment. Or the authorities may conclude that the natural parents will never be able to achieve a satisfactory relationship with the child, and will take steps to secure a final termination of parental rights. The final termination may be sought in connection with a prospective adoption or with a view toward foster care in the hope of adoption at a future time.

A decision to sever parental rights is a difficult one. Courts often place great reliance on staff people such as juvenile officers or social workers. I have no purpose of criticizing these people. They have a difficult task. Some have training in appropriate disciplines; some do not. The pay scales are not impressive. They may carry a built-in bias. A case may be shifted from one case worker to another, because of rapid turnover in personnel. Reports may have an unfeeling, bureaucratic sound -- full of jargon, and perhaps lacking in depth or warmth. These reports, however, are about the only thing that the trial court judge has, on which a decision can be based. The decision is often made by the "experts." Some decisions made in this manner are not good decisions. I am unable to say whether their over-all score is good or not.

The appellate judge is in an even more difficult position to make a decision. I have no doubt that many injustices are perpetrated and perpetuated, but have little confidence that

the review process is capable of sorting out all or a substantial proportion of the unjust decisions, and taking steps to set them aside. Appellate courts don't try cases over; they review records to decide whether the decision being reviewed is within the boundaries. We don't see the parties and the witnesses. The appellate court has great difficult in saying that the trial judge, and those on whom the trial court places reliance, are wrong. As the judge of the highest court of a state I have great difficulty in saying that the court of appeals is wrong in a case involving factual problems, although we have the same record that they have. Fortunately from our point of view, we are able to refuse review of cases decided by the court of appeals, and can let their decisions stand unless something seems clearly out of line.

Courts have been prone to decide cases on the basis of "welfare of the child." This proposition may come to mean that the court may do just about what it wants to in a given case, and that there are no formulations which may be carried forward from one case to another. Perhaps this is as it should be. Nobody has been able to devise a formula which will suit all cases. When the standard is completely indefinite, there is room for a judge to apply his subjective notions about parenting, child raising, and other issues that may be presented in a case, without effective means for review. The best interests of a child, furthermore, may be constantly changing. A child's situation is different if he or she is allowed to enter a particular school and spend several years there. The concept of "welfare of the child" has been used by a court of a state into which a child has been brought, sometimes contrary to the law of the state in which his custody was determined. The concept of "best interests of the child" will show itself once more when we consider cases involving abnormal methods of conception.

In a New Jersey case, the trial judge refused to decree an adoption because the prospective parents adhere to no religion and did not propose to give the child any religious training. The Supreme Court of the state reversed him.[5]

Up to now I have talked about conventional cases, which have been the subject of many reported decisions. The most I can say is that decisions are made, and I'm unable to say that most of them are not correct. The system is far from perfect, but it is the only system we have.

I now propose to examine some unconventional situations, and make suggestions as to how the existing judicial system would handle them.

### 3. Children Born Out of Wedlock

Only in recent years has it been held that a father has rights in a child born out of wedlock.[6] The common law held that the "bastard" was the child of no one and could not inherit.[7] Subsequent legislation made the child legally related to his unwed mother, and he could inherit only from her.[8] (I see no purpose in discussing the subject of legitimation by acknowledgment of the child and subsequent marriage). Under present law, however, the father of a child born out of wedlock may establish and claim rights to custody and visitation, under circumstances

in which he acknowledges paternity and establishes a relationship with the child.[9] It would follow that if a man provided semen which was used to impregnate an unmarried woman who was not his wife, the donor father may be able to claim parental rights. (This, of course, is a bizarre example.)

The common law also applied a very firm presumption that a child born to a woman who is married at the time of the birth is the legitimate child of both the woman and her husband.[10] This presumption was said to provide stability and certainty. Some courts have applied the presumption rigidly and in derogation of known facts relating to the absence of the husband or his physical condition. Others have made exceptions by not holding a man to the responsibilities of paternity if he were clearly shown to have been absent at all times when conception must necessarily have taken place.[11] There were numerous cases during and after World War II, in which a woman gave birth while her husband was overseas and had not seen her for a matter of years. The presumption must be reckoned with in a case in which a married woman permits herself to be artificially inseminated with the sperm of a person other than her husband. Her husband may claim paternity rights, or be saddled with parental responsibilities, and the sperm donor may have great difficulty in establishing any claim to the infant. In mentioning this possibility I do not want to be understood as approving of a jurisprudential method which closes its eyes to scientific inquiry and demonstrable facts. What I say is that some courts may be tempted to take an easy way out, or might feel bound by the force of precedent to make a decision which is out of touch with reality. If the reasoning of some of the earlier cases is followed, a judge might say, "How do I know that she didn't get together with her husband, and how do I know that the donor's sperm, rather than her husband's, impregnated her?"

## 4. Artificial Insemination

What has gone before has little to do with biotechnology. We rather have dealt with problems that have recurred many times and have given birth to considerable case law. But now it is reported that women, with some regularity, are permitting themselves to be inseminated, either because their husbands are infertile, or to act as "host mothers." What are the legal consequences? To start with, I shall assume that Roe v. Wade and succeeding decisions represent the controlling legal authority. I shall also not deal with questions of ethics and morality.

In the simplest case, a husband and a wife are both essentially fertile, but are unable to produce a child because of some obstacle to the wife's conceiving. So there are attempts to inseminate her artificially with his sperm. If the effort is successful, I perceive no legal problems at all. The child is the child of both parents.

In a second case, it appears that a man is sterile, and his wife is inseminated with sperm from a sperm donor. I can see no argument for giving the donor any claim to parental rights. A court might simply apply the presumption that the child is the legitimate offspring of the marriage, and the judge might rationalize by saying that he could not find in the abstract that the previously-apparent sterility had not been overcome temporarily. But we need not

speculate. The procedure had the consent of both spouses, and there is no reason to conclude that the child is other than the child of both parents. The authenticity of the blood line is not legally significant. There is an analogy in a valid decree of adoption, which is sufficient to make a child not only the child of his parents, but the grandchild of the parents' parents. The adopted child is entitled to inherit, both from the parents and from ascending and collateral relatives. One simply does not have to be a biological heir to have rights of inheritance.

The more controversial situation involves the implantation of sperm into a host mother, for the purpose of producing a child intended to be raised by the biological father and his wife. I shall try to speak in hypothetical terms, but people naturally tend to think of the recent case in New Jersey which has received a great deal of publicity. Several questions are raised, as follows:

(a) What if the host mother wants to terminate the pregnancy? Under Roe v. Wade, she would be able to do so. That decision speaks of the mother's right to terminate a pregnancy. Nothing is said, or suggested, about the father's right to resist an abortion. It might be considered a marital offense for a wife to terminate a pregnancy which her husband wanted to continue, but the husband has no right to stop the process. Much less would a person who is not the husband have the right to do so.

(b) The big question arises if the host mother is unwilling to give up the child after it is born. If the other retains possession of the child, and is not shown to be an unfit parent, I have a hard time seeing how a court can force her to turn it over to the biological father and his wife. If she voluntarily gives up the child, and then tries to reclaim it, the situation is perhaps different. The host mother's situation is similar to that of a woman who gives her child up for adoption, and then tries to revoke her consent after custody has been transferred. A court might find that the "best interests of the child" require that the receiving parents retain custody.

The concept of "best interests of the child" allows a court great discretion, even to the point of taking the child away from the mother who bears it and giving it to the father and his wife. Suppose that the host mother is unmarried, and is forced to work in order to support herself. The court might opt in favor of a couple who are able and willing to support the child in comfort. If the host mother is married, then her husband's attitude might be important. If he is reluctant to receive a child who is a stranger to his blood then a judge might decide in favor of prospective parents who are anxious to have the child.

(c) Suppose that the prospective adoptive parents have paid the host mother a consideration for her bearing the child. Opinions differ widely on the propriety of a contract of this kind. I am not at all sure that the courts should drag out the time-worn concept of "public policy," so as to make an initial pronouncement of illegality. The contract might be one which is highly acceptable to both parties. The prospective parents get a child that they are unable to produce in the normal way, and the host mother receives money which she may sorely need. Some states have statutes which prohibit "baby selling," but this is not the same thing. I doubt that the practice will become so widespread as to present a significant problem. Simply be-

cause the contract is not illegal, however, does not necessarily mean that it will be specifically enforced. The mother who bears the child may have a claim that some courts would respect. If she has received consideration, she may have to pay it back. And then we may speculate as to whether restitution of the consideration is necessary if the mother wants to withdraw from the contract. What if she has received and spent the money? Most courts do not force a person to perform a contract simply because a consideration has been paid and cannot be refunded. There may be a debt, but debts are often uncollectable.

In the foregoing discussion I have assumed that the child's biological parents are the father who provides the sperm and the host mother. There is a variation, in which a couple cannot conceive by normal methods, for some mechanical reason, or in which the wife cannot carry and bear a child, but the father is capable of producing viable sperm and the mother ova. Both the sperm and the ovum may be implanted into a host mother, giving birth to the biological child of the donor parents. I am not sure that this situation is legally different from that in which the host mother is the biological mother. I had always assumed that the bond between mother and child arises primarily because of the carrying, birthing and nursing processes, but the bond is undoubtedly strengthened by the transmission of one's own genes to another individual. The problem in taking a child away from the mother who bears it is the same. I suspect, however the absence of a hereditary link between mother and child might influence the decision of a court.

We might conclude the discussion by considering the situation in which a husband and wife, for reasons best known to themselves, produce sperm and ova which are preserved by freezing, and then the parents die. We have heard of course of sperm and ova being preserved in Australia after the donors died. There has been speculation as to what the inheritance rights might be if a host mother were impregnated. I don't believe that there are any right of inheritance in a child so conceived. Heirship and descent are fixed at death (except as to a posthumous child naturally conceived and delivered). The child could inherit only from the host mother.

If a host mother is allowed to retain a child, I suppose that the biological father would have at least the rights of the father of a child born out of wedlock, unless the host mother is married. If the host mother's husband were willing to take the child as his own, then visitation or other attention from the biological father would present substantial problems.

Perhaps all that can be said is that the mother who bears the child has a strong claim on it, unless a court can be persuaded that the best interests of the child require a different disposition. I wonder whether there is need for a legislative solution until the courts have had the opportunity to consider numerous cases.

## 5. Prolonging Life

We also see much discussion in recent days of artificial prolongation of life which has lost all meaning. We of course could philosophize at length about when life is meaningful. I shall assume a situation in which an individual is said to be "brain dead", meaning that he

or she has lost all cognitive faculties such that, according to available medical opinion, the condition is permanent and irreversible. What are the obligations of those in charge to prolong life by artificial means?

Our law holds that a person who is legally competent has the right to refuse medical or surgical treatment. An elderly patient suffers from diabetes. The doctors advise the patient that rapid death is inevitable unless both legs are amputated. The patient refuses. The patient is entitled to refuse and cannot be commanded or forced to undergo the needed procedures. The surgeon, in fact, could be charged with assault and battery if an operation is performed on an adult who is competent and unwilling.[13] The competent individual is entitled to determine his own best interest, as the individual sees it.

With children, however, the rule is different. We have had several reported cases over the years in which doctors have advised that a child requires a blood transfusion and the parents have refused to permit the procedure, on religious grounds. Courts have undertaken to command the needed treatment.[14] In another widely reported incident, a child was suffering from cancer. The doctors advised that chemotherapy was the only recourse. The parents wanted to use laetrile. A court ordered chemotherapy and the parents took the child to Mexico for their preferred form of treatment. The child died rather quickly, and so the case did not make the full round of the courts. Most cases in which treatment is ordered do not reach the appellate stage.

I have assumed that the situation as to incompetents is the same as to children. Somebody else is entrusted with their affairs. The incompetent may express an opinion or preference, but the decision is elsewhere. Sometimes it is suggested that an ailing person's decision to refuse necessary treatment or surgery is probative of incompetence. If this line of reasoning is followed, then the ability of the individual to refuse treatment is seriously compromised.

With this background, what about extraordinary methods for prolonging life, when life has lost all meaning? I have heard it said that doctors and hospitals are afraid of being sued if they withhold or remove life support measures, even though the immediate family wants no further efforts at prolonging the breathing process utilized and all other indicia of life are absent. This has given rise to litigation, of which the Karen Quinlan case is the best known example.[15] I wonder who is going to file a suit in such a case, and what the plaintiff would expect to recover, if the facts as to the patient's condition are accurately reported. I am confident that there could be an effective disclaimer of further liability for bills. I wonder what the doctors and the hospital will do, if informed that nothing further will be paid. Whatever a doctor's liability might be, the doctor is not obliged to go into his own pocket.

I express the foregoing, not to be facetious, but to suggest that dozens of decisions to withdraw life support are made everyday, without fanfare or publicity. The patient's relations express their preference and the doctors and hospitals abide by the decision. There is little that the court can do, other than commenting on the authority and responsibility of the parties to make decisions, and remanding the matter for their resolution. There is no need for probing as to what the patient would have wanted, had he or she been competent. The court may tell

a guardian that there is no duty to obligate the ward's funds for medical treatment which cannot be of substantial benefit. It may tell the guardian that the patient may be moved elsewhere, if in fact a hospital refuses to discontinue life support treatment. It may perhaps tell the doctor and the hospital that there is no need to fear liability for following the instructions of the guardian or the person in charge of the patient as to means of treatment. I reject the thought that there is some brooding presence which prevents the people having legal custody of the incompetent patient from acting in a manner they deem reasonable.

Some individuals execute what is called a "living will," saying, in effect, "don't use machines to keep me alive when there is no hope that I can live without them." I am aware of no case involving these documents. Perhaps the existence of a living will would make it hard to say that the patient, if competent, would have wanted life prolonging measures used.

It may be urged that there is no certainty in medicine or biology and that the predictions that the patient is beyond helping may be in error. There is also the valid suggestion that experimentation in preserving useful life and restoring functions which are assumed to have been irretrievably lost should be encouraged, and that scientific research is impeded if the patients are written off too quickly and allowed to die. These considerations must be addressed to the people in charge of the patient. The judicial process cannot add very much in solving the problems.

## 6. Organ Transplants

I sense no legal problems which are peculiar to organ transplants. An organ transplant is often the last resort, and so there is a question as to whether more conservative procedures should be tried. The transplant deprives the patient of the malfunctioning organ, and so, if the transplant fails, then no degree of restoration of the patient's own organ, or even use of its existing capacity, is available. It is possible that a doctor may be sued for malpractice if a transplant is attempted and it is not successful, or if a transplant is not attempted and the patient dies because of absence of the organ function. Problems along these lines may be solved within the existing framework of malpractice law. The former case seems more likely than the latter case. There might be attempts at legislative relief. If a transplant is attempted as a last resort and fails in spite of the exercise of all required skill, care and judgment, the physicians should not be liable. Of course if they can prove that they acted as just described, no plaintiff should get a verdict in a malpractice case, but there is the risk of an adverse jury verdict. If the legislature is of the opinion that physicians should be able to undertake novel or experimental last-resort procedures without fear of being sued, or that the patient should be able to give an effective release from liability in advance of experimental or extraordinary operative procedure, it might adopt protective legislation.

There is a problem as to how organ transplants are to be provided to all who need them, and of the cost. Most of us assume as an article of faith that all who need medical care and treatment should have it, and that the public should stand the expense if there are no other sources. Sometimes self-styled realists will say that it is not possible to provide needed treatment for everybody -- that the public coffers could not stand this, without substantial

alteration of our way of life, or neglect of other governmental responsibilities. As a matter of fact, many people do not get all the medical care they need, and many do not get required surgery. Even when the services are theoretically available, somehow they are not fully claimed and utilized. I will not go further because I am limiting myself to the role of the adjudicatory process and am at a loss to determine what a court might do under these circumstances.

## 7. Genetic Testing, etc.

It is now possible to determine, with a fair degree of accuracy, whether an unborn child, or, for that matter, any human being, carries certain genes which will produce an abnormal or disabling condition. I cannot see any particular legal problems arising out of the voluntary use of this testing. Those who want the information the tests might supply are free to have the tests, and to make such lawful decisions as they feel are indicated by reason of the result of the tests. It is not my place to comment on the morality of a particular decision. I can see possibilities of claims of malpractice based on failure of a test to detect a particular condition, or of inaccurate analysis of test results leading to the "unnecessary" termination of a pregnancy. But these problems are not essentially different from other medicolegal problems. There are also problems if a person holds himself or herself out as a "genetic counselor," and gives advice on hereditary matters. There could be claims of inaccurate reporting, or of bad advice, or of a coercive approach. I do not perceive that such litigation presents a major problem.

## Conclusion

About all I can say is that the courts necessarily are available to decide actual controversies which are presented by new methods of biotechnology. The decision-making process functions best when it deals with actual controversies between individuals. Courts do not do so well when their functions are essentially advisory or administrative. I am not able to say that courts do a good job in most decisions resolving these controversies. What they do provide is a forum for resolution, which is better than the alternative. Most of the people who enter into litigation settle their disputes short of an actual judicial decision. It is the job of legal counselors to advise their clients of the possibilities involved in litigation, and of possibilities of settlement, so that they can decide whether to go through with the litigation. So when new methods of technology lead to disputes, court resolution remains a possibility. It is not possible to anticipate all ramifications of novel situations. Legislatures may try, and of course have the authority to prescribe the rules. I would counsel against ventures into the unknown, and against jumping to conclusions about novel situations. I would also counsel against the hasty application of conventional moral precepts to unique and unforeseen situations. It is good to have legal scholars' comments, and these may be of great benefit to the courts when problems are presented, but the real test comes when an actual controversy comes up. I have faith that the legal system will make appropriate response. If the political arms of the government are dissatisfied, they can prescribe definitive rules for the future.

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# THE LAW AND THE COVENANT

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Father Keefe is a graduate of Colgate University. After service in World War II, Fr. Keefe entered Georgetown University Law School from which he graduated in time for further military duty at the time of the Korean War. He was admitted to the bars of Washington, D.C. and New York. He joined the Society of Jesus in 1953, studied theology at Woodstock College in Maryland and then was awarded his doctoral degree from the Gregorian University in Rome in 1967.

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During this year and the next we celebrate the 200th anniversary of the ratification of the federal constitution, the foundational law of the United States. 1987 is also the 35th anniversary of the publication of a celebrated work by Eric Voegelin, the recently deceased Austrian polymath whose Walgreen Lecture, The New Science of Politics, has since its publication by the University of Chicago in 1952 become something of a classic.[1] Voegelin is accounted a prophet by those now numerous conservative spokesmen for the tradition of symbolic values underlying western civilization who like him see in the post-Enlightenment commitment to the progressive rationalization of law the corruption of law itself.[2]

Within the past forty years the constitutional law of the United States and that of much of the western world has ceased to develop its understanding of fundamental human rights and obligations in terms of a society whose basic social institution is marriage as understood in the Judaeo-christian religious tradition. The secularizing thrust of contemporary jurisprudence has called for the restructuring of society upon the rationalization of notions of freedom, authority and responsibility whose original meaning in constitutional law rested upon a historical development of which an essential element was a free religious consensus bearing upon an understanding of human existence which saw man and man's institutions as warranted only by their being "under God."[3] The result of the post-modern rationalization of this historical legal tradition has been the now commonplace view of society as composed of "persons" rather than of maritally-founded families, and an understanding of personal dignity and privacy as atomized, opposed to and threatened by the power of the society at large to impose upon the otherwise unlimited freedom of an intrinsically unrelated or absolute person those inhibitions which are consistent with human association. From this secular and rationalist viewpoint, law is no more than the socialized application of power, and as such is seen to be the source of the rights and obligations pertinent to such human associations, rather than as their product; here J.S. Mill's essay On Liberty, John Austin's The Province of Jurisprudence Determined, and in this century, Hans Kelsen's Pure Theory of Law have lighted the way; their late 20th century successors in interest are men such as L.H.A. Hart,[4] John Rawls,[5] and Ronald Dworkin,[6] all of whom continue the anti-Historical and utopian positivism of their forbears.

That there is proceeding in this country such a progressive rationalization of basic law as Voegelin has pointed to in younger constitutional systems than our own has become manifest in the public life of this nation over the past forty years and more.[7] The pervasive influence of this imposition of reductivist autonomous rationality upon federal constitutional praxis has managed to put in question the root possibility of any constitutive law which would not be the mere arbitrary implementation of an ideology by force majeure.[8] Further, the axiomatic egalitarian criterion of justice which underwrites this quest for the final victory of reason over history has recently been baptized by theologians of such international stature as Schillebeeckx,[9] Moltmann[10] and Metz,[11] and presumes itself to be in fact theologically grounded: the dominant proclamations of what has been called American Catholicism have adopted the same egalitarian criticism of the injustice inherent in economic freedom as has long been in academic fashion in the leading law schools of this nation.[12]

It would be tedious to relate the fashionable progress and decline of the various schools of realist, analytical, historical and sociological jurisprudence during the present century;

their sterility was in any case anticipated by the so-called natural law jurisprudence which was de rigeur in such Catholic law schools as the Georgetown Law Center of forty-five years ago, under the regency of Fr. Francis E. Lucey, S.J.. The natural law was assumed in those days to be the sole alternative to the secular rationalism of such pundits as that bete noire of all natural law theory, Oliver Wendell Holmes, Jr..[13] The interesting result of that acrimonious and now ancient stand-off is that on the one hand the heirs of the secular rationalists of the 1920s and 1930s have discovered that their jurisprudential logic does in fact entail the legal nihilism which Fr. Lucey predicted of it, while on the other hand the legatees of the Catholic rationalism of those years have long since given over worrying about the natural law in favor a liberal political agenda.[14] Led by such Roman Catholic legal educators as Fr. Drinan, lately dean of the Boston College Law School, contemporary Catholic jurisprudence proposes today as an indispensable and indeed integrating element of the Catholic faith a praxis whose logic entails a nihilism formally identical to that embraced by Critical Legal Studies, and practically identical to that of Holmes.[15] In both camps, the older academic tradition of a quaerens intellectum has been abandoned in favor of a practical and radically political quest for power understood as liberation from oppressive legal structures -- and all legal structures are found oppressive insofar as taken seriously: viz., insofar as they claim a constitutional, a constitutive and indispensable standing, an authenticity and authority transcendent to circumstance and politics, immune to that universal solvent of historical institution, the corrosive criteriology of uncommitted, disinterested, non-historical, abstract and autonomous rationality, the truth of man as atom.

It is not at all fortuitous that this corruption should now infest, to the point of morbidity, the oldest and proudest of the American law schools. Critical Legal Studies,[16] as the latest version of this rationalism is called, has rediscovered what Anaximander[17] taught six centuries before Christ, that all the structures of law merely manifest and institute the primal injustice which accounts for things being different from each other. The quandary faced by the faculty and students of Harvard Law School is as ancient and as contemporary as rationalism itself: from the moment of the "invention of mind,"[18] it has required in the name of monadic justice the abolition of the incalculables of historical freedom ---a freedom which, precisely because its product is in fact incalculable, is to be condemned as manifestly absurd, an affront to the autonomous mind and so to the truth of man as man. John Noonan once wrote of L.H.A. Hart's jurisprudence that it is finally only "Monopoly writ large;"[19] Critical Legal Studies is quite as artificial, quite as reliant upon abstractions, as the older jurisprudence it would replace. The reliance of an Unger upon human perfectibility once the unjust institutions are perceived as such is finally utopian, with all that utopianism implies waiting in the wings.

Freedom, as this has been understood in the English and American legal traditions, ratifies, develops and celebrates the differences among human beings; this is axiomatic, and this dynamic of the free mutual affirmation of the goodness of the qualitative differentiations which flourish among a free people is explicit and effective in marriage insofar as this is still given a privileged and in fact a constitutional standing in the laws of these and other Western societies. On the other hand, insofar as all these covenantal and qualitative differences and distinctions (of which those between men and women are at once the most

radical in human experience and the most refractory to rational analysis and reduction) are nonetheless held to be reducible to quantity, and therefore open to rational analysis in terms of more or less, greater or smaller, they are also thought, as by utilitarian rationalists such as J.S. Mill, to require a justification, since on that most rationalist and materialist supposition, law becomes a subdepartment of classical mechanics; the human unit is the atom to whom no quality may be attributed without immediate detriment to its reality: i.e., to its unicity, its absolute lack of relation to all else.

Personal freedom, as proper to this human atom, then becomes unqualified, mere power, and power is intelligible, discussible, only in terms of the quantity of its unrestricted movement in space and time. Differences in freedom then become differences in mobility, and are comprehensible only as quantified, as reducible to more or less range of movement, more or less inhibition upon one's randomness, upon one's power. Such differences in power are irrational and therefore oppressive, understandable only as the consequence of a preferential distribution which cannot be other than arbitrary. Any difference between the mobility of otherwise indistinguishable atoms is obviously unreasonable violations of the rationality of the monadic order of the universe, are unjust, and require a compensatory redistribution of power, for any such distribution of power among human atoms which intends to recognize, to institutionalize a qualitative distinction does so irrationally, arbitrarily; such distinctions can be made intelligible only when reduced to quantity, as between the strong and the weak, the powerful and the powerless, the free and the oppressed, and any effort to establish them only sets up an intrinsic tension which must inevitably be resolved in terms of entropy, a return to the utter indifferentiation of the monadic cosmic order -- an order which is the transcendent unity, justice and truth at once of the macrocosmic universe and of microcosmic man.

When the monadic character of justice has been grasped, i.e., when a consciousness of the injustice of all that is not in egalitarian conformity with that ideal justice has been raised, the indictment of all historical institution must then proceed. The indictment is concrete, a revolutionary praxis of egalitarian morality as the inescapable implication of the Christian faith and of the correlative Christian concern for justice, a concern which without further discussion has become monadic, cosmological, dehistoricized. This technique of indictment-as-praxis has within the recent past become very familiar: its corrosive application to every historical institution, not only to marriage but to the entire range of sacramental worship within Roman Catholicism, is the characteristic and unwearying program of liberation theology.[20]

The rationalization of humanity in the name of the monad cannot but look to the abolition of all variety in the human community as a strict requirement of justice; it then cannot countenance nor rest content with the ancient covenantal world-view of the customary, the common law, with its connotation of the legal propriety of the free community as the maritally structured and qualified society, whose integral concrete variety and futurity is radically incapable of rational reduction to any comprehensive utopian ideology. Particularly, it is the institution of covenantal marriage that is ideologically indigestible, the bone in the throat of every utopian soteriology, as every utopian from Plato to Engels has known.[21]

J.S. Mill, upon whose 1859 essay On Liberty most of the contemporary discussion of freedom pivots, insisted upon just such an atomized humanity, very Hobbesian in its theoretical composition, entirely devoid of intrinsic or innate personal relations, and subject to the imposition of such relatedness ad extra by force of law only where it can be shown empirically that such legal inhibition upon the otherwise random freedom proper to the human atom is demanded in order to avert real physical detriment to the equally atomic interests of another, a detriment which is not to be inferred from the mere fact of its being recognized by custom or convention, but which would have to be shown to have an empirical reality. This utilitarian criteriology is clearly antagonistic to the free, covenantal and consensual moral decencies which have until lately informed American law; this accounts for the contemporary quest for "proof" of the conventional supposition that pornography is a cause of crime, etc.

It is further noticeable that such utilitarian concern for prior empirical proof of empirical injury does not arise with regard to the imposition of the utilitarian "liberal" agenda of our own day, as it did not for Mill in his: contrast the fastidious concern for individual interest over any imputation of responsibility to homosexual promiscuity for the AIDS epidemic with the bland taken-for-granted imputation of responsibility in those who smoke in public for causing cancer in others, the equally casual imputation of responsibility in those who drive faster than 55 m.p.h. for wantonly endangering others; other examples abound. For such niceties of moral discrimination an elitist intuition of the moral good is clearly requisite; to grasp the content of that intuition, the substance of that moral vision, is the privilege of the few, of those who know, the new gnostics whose monist salvation scheme is very old.

From their utilitarian and rationalist viewpoint, the differences between human beings, upon whose recognition all free society rests (fundamentally, those underlying the free, covenantal, marital and familial commitments which constitute historical human community) may not properly be privileged or recognized by legal authority unless it is manifest that they do not affect adversely the self-interest of another person -- because for the utilitarians such as J. S. Mill, it is not the covenantal civility of the Judaeo-Christian culture that is constitutive for the meaning of freedom, but rather, as has been seen, it is the uncivility of man-as-atom, whose autonomous existence is that of an absolute, without any inherent relation to any other atom, that is the sine qua non, not of the free society, but of the abstract freedom whose abstraction is precisely from the concreteness of historical freedom. Obviously, this non-historical or ideal freedom-as-absolute contradicts the historical meaning of freedom-as-covenant; as the latter presupposes and requires the qualitative irreducibility and the concrete factual interrelation of men and women, the latter refuses both. For the covenantal community, the historical paradigm of freedom is marital love, marital commitment, marital self-sacrifice. For the utilitarian community, the only meaning of love is self-love; freedom and covenantal marriage are seen as mutually exclusive, and marriage can be justified, as by Plato, only on extrinsic grounds for it has and can have no intrinsic value. As a product or resultant of extrinsic forces, marriage is a finally manipulative relation of oppression; freedom and authority in the one atom is always its repression in the other: this notion of authority is common to every pagan culture, and underlies the cosmological obediential morality of those cultures.

It should not then be thought that the utilitarian ideology of man as monad, as atom, forbids human association; the solipsistic inference is at best utopian, without any concrete possibility. Monadic man, as understood by the utilitarian, is rather the monadic community, membership in which is mimetic, i.e., it is achieved by participation in the gnostic we-saying consensus. This participation may be by way of humbly thinking the thoughts of Mao, by submitting to the Rousseauvian public will in order to be 'free;' such membership is insignificant, voiceless, that of the proles. Significant and responsible membership, as every gnostic system knows, is elitist; salvation is reserved for the few who know, who actively proclaim the gnosis, the human truth whose voice they are. This elite forms a clerisy whose proclamation is a quasi-liturgical praxis entailing a mimetic self-negation, an effective subordination of the self to a non-historical, simply eschatological prime reality, the ideal and abstract human absolute or Anthropos whose names are legion. Those few whose intuition of this non-historical or utopian human good is at the same time an existential and effective praxis of the revolutionary soteriology by way of the abolition of the concrete historical order become through this commitment the normative population, the "new class," the "nomenklatura". Such terms designate the prophets whose political embodiment of the eschatological human truth is authoritative, whose practical or political expression or praxis of this truth is at once definitive and creative of the public morality, and of flight from history to the utter security and the absolute justice of nihilism.

The tribunal before which such justification is urged is that of Enlightenment rationality, not the political or the legal forum, and that rationality, for Mill as for all those who have accepted the rationalization of human existence, is always and finally the consensus of an elite:[22] for Mill in the England of the 19th century, this was the upper class whose immunity from all obligation reduced the rest of humanity to objects of utility, much in the manner practiced by the nomenklatura of modern communist states.

This rationale and its consequences were worked out by Rousseau well before the French Revolution, and as Voegelin has pointed out, have infected every European constitution written since that time, leaving our own federal constitution in the relatively happy situation of having been formed before the deluge. But what a Voegelin could say of American constitutional law thirty-five years ago can hardly be said today: Roe v. Wade has changed all that,[23] and the usurpation by the federal judiciary of the criteriological function proper to a supposed intellectual elite has been a fact of public life for the three decades since the rise of the Warren court.[24]

After Mill, any legal justification of an institutionalized difference among human beings became presumptively prejudicial, i.e., as preferring without rational justification the interest which benefits from that inhibition upon the freedom of others. All such justification was suspect of being a mere self-serving ideology until such time as it might in turn prove itself before the bar of reason to be either a necessity of thought or a practical necessity, a matter of social utility.[25]

But of course free societies cannot rest upon necessities whether of thought or of praxis: consequently it is the covenantally free society which is now without any possible justification,

which is unjust per se and a priori. Such freedom is taken to be itself de qustibus, arbitrary, an unjust imposition of a given kind of relationality upon ideally absolute human persons who as absolute obviously can have no inherent obligations to each other;[26] the assertion of such obligations by the law indicates the need for revolution. J.S. Mill's indictment of the civil tradition of western civilization is that of the Enlightenment, of Voltaire's "Ecrasez l' infame!", of Jefferson's oath of eternal warfare against all that enslaves the mind of man. It is a condemnation out of hand of the Judaeo-Christian and particularly the Catholic tradition as a degrading, a dehumanizing sacrifice of the unqualified freedom of the unqualified human person to the outworn and irrational community of religious faith which had permeated and reformed the pagan institutions of the western world. This condemnation bears equally upon the insolence of the Christian founding of civilization and civility upon a gratuitous historical revelation irreducible to an a priori possibility of autonomous rationality, upon a revelation whose freedom is an intolerable affront to the a priori necessity of thought, and a consequent deflection of humanity from its proper pursuit of its own immanently necessary perfection.

It is unfortunate, but not surprising, that the best legal minds in the United States should find themselves enmeshed in such logic. When one seeks the explanation, it is apparent that the alternative to this necessitarian rationale is the something very like conversion to an explicit faith in the Lord of history, and the recognition and the appropriation of the freedom of truth given freely in the Revelation. This recognition would of course amount to an admission of the religious ground of law, an admission which is as close to heresy as the university establishment knows.

There is then nothing very astonishing about finding a role-model law school in its present difficulties. The same difficulties face every institution today which is concerned for what may be called civility: i.e., for the public weal, and Harvard may compliment itself upon being, now as heretofore, in a position if not of leadership then at least of having provided the fertile soil whereon the irrationalism of rational jurisprudence first produced its harvest of jurisprudential nihilism. It is now eight years since John Noonan revealed that a prior merger of medical and legal rationalism concluded to the institutionalization of death as the solution to a sociological problem conceived along utilitarian lines;[27] thirty years ago Yale Kamisar, a self-proclaimed utilitarian, pointed to the horrific implications of the then novel intimations of the rationale for the legitimation of euthanasia[28] ---a rationale now already firmly in place as a constitutive element of the contemporary sentimentality called "compassion."[29] It does not take very long to discover that such words are now emptied of intrinsic meaning, become mere bottles to hold whatever brew a secular Saki may wish to pour. If the cup ensuing is found bitter, yet such are matters de qustibus, open to any felicific calculus: who's to say? This is a century in which millions have found the answer to that question in the death camps of the Third Reich, in the Gulags of the Soviet Union, and in the abortion mills of the United States.

The perception that this romanticism is intolerable has found its expression only in what has been designated by the media phrase-makers as the "religious right," who were immediately pilloried, by those who so labelled them, for presuming to impose their value-system upon a supposedly secular and therefore value-free people. Richard Neuhaus has exposed some of the inanity of this criticism,[30] although he too fears the intransigence which such religious

people manifest with regard to "single issues" in a fashion little calculated to endear them either to the dogmatists of the absolute separation of Church and State, or to ecumenists in the grip of the fastidious fundamentalism-phobia of the contemporary theological academy. It is generally admitted that such people as make up the "moral majority" and its allies have the right to speak, but their exercise of it is antecedently condemned as outside the "mainstream" and thus incapable of contributing to the dialogue of a "pluralist" society whose opinion makers have powers of excommunication from that discourse and are not loath to use them.[31] It is quite evident that the possible consequences of a free exchange of views are feared: this by a generation accustomed to seeing the logic of legal rationality used not only to defend but to impose public policies utterly inconsistent with and destructive of decencies of a civility rooted in the free traditions and traditional freedom of the West.

However, freedom itself is another of the words which has lost their inherent meaning: the word is now used to designate the indeterminacy of randomness, of lonely atoms swirling in the void whose vacuity is provided by the death, the absence of God. Pascal, speaking for the still novel atheism of the century of Descartes, confessed the thought of that emptiness frightening, but he spoke abstractly: the centuries following have seen unfold the terror which the pure Rousseauvian rationality of the French Revolution discovered to be as such an essential dynamic of the rational state; after two centuries of discovering what it means to be forced to be free, we are lately in a position to endorse Pascal's insight with but a single correction: the atheist's void is in fact terrifying in the strict literal sense, but not merely to the atheists among us. Since Marx corrected Feuerbach's still only theoretical nihilism, the terror is no longer hypothetical; it is the practical preliminary to utopia.[32]

The options open to constitutional legality have always a metalegal component, a prior postulated human truth, generally unreflected upon and capable of recognition only in the breach of those customary decencies which are its continuing and conventional expression; the first ten amendments of the federal constitution intend to state those inhibitions upon the jurisdiction of the central authority that effectively bar it from foreclosing and concluding the freedom and thereby the decencies and civility of the free society which over the centuries have framed the English customary law, the common law of the American colonies and of the United States which have succeeded to their interest only by continuity with their freedom. This continuity in freedom and in free civility is the constitutive element of English and American law; all the rest is subject to change, to amendment, but the freedom to change, to amend is not negotiable, not subject to the vagaries of human frivolity: that is at once the glory and the fragility of the legal systems of the western world, whose roots are fed by the Scriptures, by the Church's doctrinal tradition, by the ceaseless ferment which the Christian faith has imposed upon a generally reluctant world,[33] a world made up of people like those who long ago at the waters of Meribah castigated Moses for introducing them to the inconveniences of freedom -- people like ourselves.

Our law, and our consciousness, is caught between what Augustine called two loves;[34] equally well he might have said two truths, for the schism in us and in our law reaches to depths more profound than that which distinguishes between the transcendentals.

One of these loves is self-centered, constitutive of the atomic self beloved of English rationalism since Thomas Hobbes, but a self which in its implications is as easily that of Nietzsche's Ubermensch or Sartre's existentialist, who can abide no peer. The social nature of this self is worked out in the primitive pagan liturgies which Eliade has explored;[35] it is a self which as self-aware is anguished, as becomes an object lost in an unqualified chaotic space and time of meaningless pure extension, in the abyss or the desert or the "tomorrow and tomorrow and tomorrow" of a future forever repeated ad nauseam, wherein the despairing self has no home, no hope, no destiny. The self thus self-disclosed spontaneously seeks surcease in ecstatic self-forgetfulness; the anodyne for the terror of the loneliness of the "infinite spaces" of the macrocosm or microcosm in which it wanders may be offered as it was to the people of the ancient mimetic societies, by a liturgical immersion of the lonely and otherwise suffering self in the self-forgetful mass consciousness of the we-saying community; to a more contemporary pagan, it may be offered through a structurally identical immersion in the collectivist product of an equally mimetic utopian imagination. To such devices there is an inverse, explored by Nietzsche and by Sartre, in which the lonely ego is exalted to the status of the absolute. Such a Sartrean self, to whom Hell is other people, has transcended all suffering, all alienation; those are all annulled by the abolition of all that is not self. The loneliness is thereby transmuted into the classic posture of absolute thought thinking itself in an inaccessible bliss.

Such soteriologies, whether by away of nirvana or apotheosis, are ideal; the salvation they offer cannot endure the stuff of history, and the praxis which their achievement connotes and entails represents always a flight from that incalculable absurdity, and a refusal and an abhorrence of any exercise of responsibility which is historical. They are then cosmological, in the strict sense of looking to the annulment of history as the means to preserve the unity of the cosmos. To this end, the spontaneities of history are submitted to the monadic ideal truth immanent in autonomous rationality after the manner of Hegal; this suffices for the alleviation of all human woe, for humanity is abolished with history.

Reductively, such cosmological salvation schemes are amoral; they deal not with the remission of sin but of suffering, and for this they must rely upon a therapy whose manipulative implications are frustrated by the obstinate assertion of the covenantal character of freedom in its reality, by the insistence upon the historicity of man in his world, and upon the covenantal quality of human responsibility, a responsibility which is free, historical, and is so by being at bottom marital. The Judaeo-Christian faith in a salvation mediated by history, mediated by human freedom, is simply anathema to the cosmic mentality, which is now a dominant factor in American law.

We have referred to Lord Devlin's defense of the propriety of leaving to the members of a jury the determination of the existence of a criminal offense against the public morals; I have suggested that this example may serve as a kind of test case for the determination of what constitutes legality; i.e., of the question of the ground of law. Is law rooted in abstract rationality, whether or not ratified by an elite, or does it rest in the gratuitous truth of covenantal human freedom, and therefore upon a historical revelation, thus upon a ground transcendent to all rationalization whether by the natural law jurisprudence or the positivist? The conviction that the latter option is true and that the covenant is the ground of law

undergirds the older tradition of the customary law of the western world, a tradition to which all rationalism is irrelevant.[36] Its analysis will take up the remainder of this paper.

The resistance of the free society to rationalization, understanding that term in the sense of the logical explanation of reality in terms of necessary causes without intelligible remainder, rests upon the percept that such reduction is finally untrue, and that its constructs have no reference to actuality. The refusal of western societies generally to accept the determinist or totalitarian implications of such reductions is very nearly a constant, despite the continual temptation which they present to a culture obsessed with scientific method, and despite their congruence with the axiomatic rational autonomy of the contemporary sophistication. Some recognition of the overriding freedom of the human condition survives the drumbeat of technological triumphalism, a common experience of the fundamental decencies of life in a free society savoring somewhat of the experience of the great Dr. Johnson's friend, the country squire who shamefacedly revealed that he had perforce to give up philosophy, because cheerfulness kept breaking in. The historical consensus that free community is worth its technological inconveniences finally defeats the utopian enthusiasm when that enthusiasm is not backed up, imposed, by terror. But it should not be thought that this consensus is a thing automatic, simply there when not suppressed; it is rather the product of an often, even a generally arduous commitment, but a commitment so commonplace that is indispensability to the freedom of the political community passes unnoticed by those most concerned for that freedom and that community.[37]

The common-sense refusal of reduction to ideology which characterizes the American legal tradition is rooted in the customary or conventional wisdom of the western world; since Constantine this wisdom, obscurely nourished by the Catholic liturgical praxis of marriage, has been transforming the totalitarian dream of empire embodie in the Roman law, even while that law was being accepted as the principle of the rational organization of society following the eleventh century Gregorian reform. From the close of the fifth century[38] the bipolarity of the symbolic authorities of Roman law on the one hand and of the Catholic historical worship on the other has forced the old pagan Roman notion of authority as monadic or cosmological to give way, slowly and laboriously, to the recognition that in fact the world is ruled by a moral as well as by a political authority, and that in consequence authority is not the simple abstract monadic principle alike of cosmic structure[39] and of social unity that the ancient legal formulae of the Roman law had assumed.

This recognition was worked out in the conflict between Pope and Emperor, and was a practical rather than a theoretical understanding; the inadequacies of that resolution are manifest in the political philosophies which are the heritage of the federal constitution; John Locke, for example, puts the final authority in the State,[40] much as Marsilius of Padua[41] had done in the debates between papal and civil authority which marked the fourteenth century. Such resolutions of the Church-State bipolarity are clearly monist, concluding to the same cosmological understanding of the unity of society as is embodied in Plato's Republic, and in every rationalization of the human community since then.

We have pointed already to the consistent demand of suchrationalizations for the revision of marriage in the sense of abolishing its irrational (because anti-monist and bipolar) implications;[42]

the denial of the legitimacy of that polarity is the evident implication of any rationalization of the human society. The intimation that unity of authority, and of human community, is in fact covenantal, that it is intrinsically qualified and relative, that it not only is not but cannot be realized by the suppression of freedom in all others but rather that the actuality of authority and of human society is the maritally or nuptially symbolized affirmation and concrete support of freedom in all others is scarcely given even lip service in contemporary legal and political theory.[43] If the problems now confronting the legal and political unity of the western civilization and more particularly those confronting the implementation of the federal constitution are to be resolved in a fashion which preserves that unity in its freedom, the only device which is capable of sustaining at once the freedom and the integration of human society must be exploited: this is the covenant, whose dynamically effective socio-political historical expression or praxis is the irrevocable marital commitment.

This marital commitment is a most radical rejection of all the cosmologically-grounded monisms whose monadic paradigm for rationality still locks most western minds into the supposition that the truth of reality is its cosmic structure rather than its historical freedom, and that consequently the rationality and stability of reality, whether of the macrocosmic society or the microcosmic individual stands in a most fundamental opposition to the incalculable and therefore irrational future posed by the exercise of personal freedom. As Psalm 95 reminds us, so thought the timid followers of Moses who, frightened by the prospect of the desert into which he would lead them, were nostalgic for the cosmic security offered by their Egyptian captivity. To rely upon the promises of the Lord of the covenant, the Lord of history, to commit oneself to the freedom He offers, to the society He offers, is preceisely to disencumber oneself of those cosmic safeguards which above all are alert to ban the human freedom to effect the new ---for to the cosmological consciousness the novel is by definition dangerous; it must be annulled by the eternal return to the timeless, the ideal and nonhistorical pattern universe immune to change.

This cosmological consciousness is built into every rationalization of the law, for all those rationalizations, including those which talk of natural law and natural rights, place man within the closed, the cosmic circumscription of an ideal definition. This is generally recognized; the problem is what to do about it, for the suggestion that the answer is finally a religious answer is repelled by an instinct fed upon prejudices almost ineradicable. The ethnic memories of oppressive religious regimes which the early immigrants to North America brought with them remain vivid in the public imagination; the far more vast and vastly more murderous oppressions of contemporary totalitarian socialistic regimes evoke far less fear and hatred. Routinely it is institutional religion that is seen to threaten the public peace and the personal freedom of American public life, and not the bureaucratic ministrations of Big Brother: the somber warnings of Orwell and Solzhenitsyn find little audience and that little unwilling, while the media are full of concern for the pathetic victims of Rome's doctrinal firmness.

It is then necessary to point out what is otherwise obvious: that insisting upon the marital society as the basis of all society is scarcely a novel idea, and that in fact there still remains effective in our law a very considerable degree of privilege for the institution of marriage. Admittedly, this privilege standing of marriage is subject today to an increasing erosion, but

in principle it remains in place, at least in the sense of never having been formally rejected. Neither is there any significant popular protest against it; such as there is, is led by persons and organizations with little popular support.[44]

Nonetheless, the conventional governmental support for the family is clearly eroding; the number of people living in non-marital families is increasing, and the attempts to de-maritalize the family are no longer camouflaged.[45] The widespread media attention to and support of the now widely accepted notion that so-called "homosexual community" is an oppressed minority deserving the same legal protection given victims of racism has had the effect of making any privilege afforded the traditional family appear prejudicial and in need of the kind of apologia which is doomed to failure from the outset: one cannot justify, in the sense of reducing it to a necessary truth, the free commitment of a civil society to the ground of its freedom: a free commitment as a matter of definition is never necessary. Yet it is in this defensive posture that the advocates of the maritally-grounded society would now be placed by their critics. Clearly, it is one which must be rejected out of hand, for it forecloses all discussion of the only real issue, the relation of the presumptive privilege position of marriage to the meaning of the free society. It is necessary to point out in season and out that the egalitarian premise has no standing in the law, that it is not the basis of our liberties, and that to postulate it as the common ground of public debate is an intolerable elitist attempt to impose cosmic presuppositions of servility upon a historically free people whose equality is not monist, but covenantal and therefore qualitatively diverse, masculine and feminine, finally nuptial.[46]

It is not enough simply to refuse the servility of the utopian society constructed by this cosmological rationality; correlative with that refusal must be the confident assertion and the convincing demonstration that only in a resolutely marital society is the freedom inherent in the western legal tradition able to be actual in terms of law and government; it is only when the radical ground of human existence is inviolably free because prior to all government that government is limited from its inception, as the very condition of its institution. "Privileged" is an inaccurate description of the relation of marriage to free civility: rather, marriage is the concrete ground of that civility, and cannot be put in question by it without rejecting the constitutional base of a free society.

A part of this convincing demonstration of the centrality of marriage which is now necessary consists in the analysis of the concrete historical significance of the nuptial or marital symbol itself. The nuclear density of this symbolism, of the free social unity which is sacramental marital commitment, at once affirms and demands and causes an open future and an open society; it is a dynamic, a historically concrete refusal of all limitation upon the free association of men and women within all the dimensions of their society, and upon their free access to all those dimensions: cultural, economic, political; it further affirms, causes, and in practice presupposes their equal dignity as a reality transcending all possible calculation, beyond all the rationalist and utilitarian criteria which might presume to measure it. Where any of these elements of human freedom are denied or submitted to supposedly higher values, so also is the freedom to marry and be married, and with the submission of the covenantal symbol upon which our freedom rests to the servitude of self-enclosed and self-imprisoned microcosmic man, and the consequent suppression of its dynamic historical utterance, the macrocosmic and servile state emerges.[47]

This may be said in another way. We are accustomed to thinking of the abstract "person" as the unitary subject of legal rights and duties, even to the excogitation of artificial persons such as the corporation, whose very impersonality does not bar it from being such a unitary subject, but in fact fits its atomistic definition without remainder, as historical human beings never can. This abstract and rationalistic analysis of the human unit presupposes an impersonal, a dehistoricized subject, one indifferently like any other, all possessing utterly identical rights and privileges as the evident implication of their being impersonal persons.

The incongruities which this logic can work are now evident, in the law's manifest embarrassment over the discovery of very obvious, indisputable differences between men and women, long recognized in common law. The denial that such differences can be given legal recognition has made of American law a laughing stock: driven by that doctrinaire egalitarianism we have subordinated the occupations historically requiring a masculine strength and aggressiveness to the a priori cosmic equality of women, with the results to be expected when an institution or profession is assigned purposes simply ideal, alien to its historical constitution. When a major consideration in the curriculum of the military and naval academies is that women shall not be disadvantaged by the physical and psychological rigor which have traditionally been part of their curricula, other goals are in view than the adequate defense of the nation; when the admission and training policies of police and fire departments of American cities must be more concerned for the adequate representation of women in their ranks than for the safety of the cities they are there to serve, and must consequently turn a blind eye to the obvious physical incapacity of women for such employment, then the law is in full flight from concrete historical reality.

The degradation of the feminine is notoriously indispensible to this flight; the nullification of women by their redefinition in the agonistic masculine terms of office, rank, contest, achievement, success and failure, is intent upon serving an ideal and utopian perfection to whose attainment all historical qualitative difference is an injustice to be overcome and annulled, and most particularly, that most refractory historical unity, the covenantal marriage, whose symbolic power to refashion the world in the image of God by its own imaging is so threatening to the secular mind, the cosmic imagination. Nor should the corollary to the degradation of women be missed: it is of course the redefinition of the masculine, which now requires that those characteristics of attitude and presence which identify the male should be suppressed and devalued -- again in the service of the immanentization of the sexless eschaton.

The subject of the law of a free people is a free social unit, whose freedom is not an idea but an event, the event which is self-commitment to the unconditioned dignity and worth of another human being qualitatively irreducible to oneself: only in this event does freedom have its ground. Man as atom is man as myth, and the myth is cosmological, a placing of man in the prison of a closed idea, timeless, changeless, without hope. Atoms have no meaning of their own; meaning must be given them from without, and this is always a limitation upon their random motion in the void. Law thus conceived must then be force ab extra, suppressing the freedom of the random atom in the void; at the same time the theory legitimating the application of this force finds in its suppression the very meaning of injustice,

and therefore must long for that which will conclude all suppression, all suffering: the lure of law thus conceived is always the void, empty of atoms. The end of the cosmological law is the nullification of the cosmos itself, the shutting down of the eternal return, the achievement of the nameless peace of which nothing can, and must, be said. This is the final cosmic sophistication: history is agony; therefore flee from all that is historical. For this vision, the covenant must be anathema, and is.

Illustrations of this cosmologizing of the law are lavishly at hand. Few if any of them are the product of the political process, of legislation; most are expansive bureaucratic interpretations of the unchallenged usurpation of legislative functions by federal and state courts. The correlative disenfranchisement of the electorate, the removal of more and more decisions from the jurisdiction of the legislatures, the progressive nullification of the political process of the free society, is a most fundamental aspect of the servile society, and the impact of this disenfranchisement upon the public law of this nation over the past thirty five years is patent. Scarcely any of the present multitudinous cautelar and utilitarian limitations upon the freedom of the common people is the product of political debate and its political resolution; more and more we are governed non-historical non political abstract ideals, imposed by fiat. Very nearly the full force of an enthusiastic media[48] is lent to the necessary indoctrination, the moral promotion of servitude; we are urged by pundits professing expertise on every conceivable subject to submit ourselves to the governance of those who are alert to the dangers posed by our uncautious insistence on being free, and who by their gnosis are alone qualified for magisterial office: the lesser sort must be protected from themselves.

As has been said, this servitude can become attractive; certainly it is more attractive to many today than was even thinkable a generation ago. It is not coincidental that the same thirty years have seen an ever-increasing, ever more powerful onslaught upon the religious symbolism of sexuality which undergirds the marital society, the free society. When at last, seduced by a deluge of increasing pornographic solicitation, one is converted to an acceptance of the practical, the historical inconsequence ---moral, religious, social, political, even sartorial --- of one's being a man or being a woman capable of covenantal marital commitment, not much else is left to be concerned about. We are well on the way to this indifference, to this cosmological salvation which all pagans seek, of which the Zen Buddhists speak, the state of satori in which all things have become equally insignificant, or to its Hindu antecedent, the nirvana in which all finitude, all history, is extinguished, and all striving ceases.

Such foreboding may seem extravagant; as an antidote to an easy optimism, consider a single accepted and publicly defended product of our federal constitutional law: while there is no jurisdiction in this nation wherein a physician may pierce a child's ears without her parent's permission, there is now also no jurisdiction in which a physician may be prevented by a parent or parents from aborting the child of their child. Prescinding from the ineffable asininity of a legal decision which could reach such an inference without any hesitation over its premises, consider the bathetic docility, indeed the abject servility, of a people able to live peacefully for years on end under that despicable tyranny, that malicious contempt of all familial decency, of all familial dignity. The affront here is total: to the marital

covenant, to the marital community, to its decencies and morality, to its privacy, to its unity, to its standing at law. Already disintegrated in principle by the Abortion Cases, the impact of these judicial usurpations of political responsibility, ordered to the nullification of the ancient marital covenant of a free people, now is seen to bear also upon the covenantal relations between parents and their child, and against this fiat there is no appeal.

The public has lately been trained to be shocked at the violent destruction of an abortion mill and to approve, even applaud, harsh sentences for those who commit such malicious violations of the public peace and tranquillity; the public has also been trained to be complacent about the fetal bodies found strewn about such abbatoirs for the innocent, and to be untroubled even when a federal court solemnly bars the requested religious burial of such abortion by-products, lest their humanity be acknowledged.[49] To repeat: a free people stand still for this institutionalized indignity. One must ask why, nor is the answer far to seek: we are no longer a covenanted people under the law of the covenant. We are one nation, perhaps, but only as under an idol.

While this goes on, the Catholic bishops busy themselves with foreign policy and the possibility of war, and with the quality of the economy; apart from an annual ritual condemnation of the new holocaust, with rare exceptions their attention is elsewhere, upon meeting responsibilities whose cosmological character is ever more evident, while the sacramental and historical responsibilities which ex officio are truly theirs remain on hold, together with effective opposition to abortion. Again, marriage is here a crucial matter, and the American episcopacy have more than once had their attention called by the present Pope to their neglect of this central sacrament, this central responsibility.

If we do not recover the vital significance of this central and effective symbol of our constitutional freedoms, they will continue to evanesce, for they are sustained by this symbol and not otherwise. The recovery is a matter of worship, of prayer, of sacrifice; the demons which now afflict us are not otherwise cast out.

Finally, this recovery is a matter for the laity: providentially, only they are married; it is their marriages and families which are being destroyed by the rationalism operative and perhaps dominant in American law, and it is their utterance of their truth which is being prohibited, which is being refused a public expression in history. It is their symbolic decencies which are derided, contemned, charged with malice and enmity toward secularized humanity. This makes of the married couple, the marital covenant, a sign of contradiction, effective in the midst of a world converted to another faith, another worship. This fact, daily more evident, places the covenanted couple where the worship of the Church has always placed those who take it seriously: on the cross. To live out the sacrament of marriage today is very clearly to proclaim the truth of Christ, to the truth of His creation, the New Covenant by which the world is redeemed, and this proclamation is a rebuke and a scandal to those whose lives are dedicated to the insignificance of man.

Of those of us, laity and clergy alike, who find in the worship of the Lord of history the sustenance of our lives, it must be said: By our enemies we are known: ours are legion.

The victory over them is not in issue: it was won long ago, on the Cross which has redeemed the world. All that is in issue is all that has ever been in issue: whether we have faith enough in the Lord of history to live significantly, responsibly, with dignity in history, or whether we would prefer to forego the cross in favor of the solace of that cosmic indignity of submerging our faith and our responsible freedom in a sea of necessary reasons, all testifying to our fundamental triviality, irresponsibility and personal insignificance. As always, we have before us life and death; more than ever before, it is clear that we must choose: nor should we be confident, should we choose badly, that the opportunity once more to choose will be afforded us.

## FOOTNOTES

1. A further brief development of the same theme followed some sixteen years later: Science, Politics and Gnosticism, (Chicago: Henry Regnery Press, 1968).

2. Willmoore Kendall and George Carey, The Basic Symbols of the American Political Tradition (Baton Rouge: Louisiana State University Press, 1970).

3. By far the most eloquent contemporary defense of this religious tradition is made by Alexander Solzhenitsyn; see the famous address given at the 1978 graduation ceremonies at Harvard University: its text may be found in e.g., The Rocky Mountain News, 18 June, 1978. Solzhenitsyn had prefaced his Harvard address with one given to the A.F.L.-C.I.O. in 1975; its text was published in The National Review vol. 27, no. 33 (Aug. 23, 1975) 929-938.

4. L.H.A. Hart, The Concept of Law (Berkeley: The University of California Press, 1976); see also Law, Liberty and Morality, The 1962 Harry Camp Lecture (Stanford, CA: The Stanford University Press, 1963), Hart's extended reply to Lord Patrick Devlin's 1958 Maccabean Lecture, discussed in note 12 infra.

5. John Rawls, A Theory of Justice (Cambridge, MA: The Belknap Press of the Harvard University Press, 1971). Rawls is usually named a contractarian rather than a utilitarian, but this bears rather upon his theory of the origin of the state than upon any disagreement with the utilitarians over the character of legal criteriology. Because for him the legal community has a nonhistorical origin in a contract made in illo tempore, so also is his notion of justice as fairness dehistoricized, egalitarian à outrance, without any intrinsic qualitative content. "Fairness" is in fact emptied of meaning by its own demand of abstraction from the "unfairness" inherent in all historical concreteness. This anticipates the entirety of the rationalist and monadic immanentist soteriology: a flight from the evil inherent in the qualitative variety of every-thing to the felicity inherent in the utter indifferentiation of no-thing, any departure from which is the re-institution of injustice.

6. Ronald Dworkin; Taking Rights Seriously (Cambridge, MA: Harvard University Press, 1978); A Matter of Principle (Cambridge, MA: Harvard University Press, 1985).

7. The critical moment is of course the 22nd day of January, 1973, in which the decisions on Roe v. Wade and Doe v. Bolton were handed down by the Supreme Court; much of their content was already implicit in Chief Justice Warren's earlier obsession with the "justice" of the Court's decisions rather than with their legality, which assumed jurisdiction in the Court to annul the legislative results of the political process whenever incompatible with the Court's own ideal of justice, an ideal which the "Warren Court" made to be the very substance of constitutionality. Chief Justice Warren does not seem to have recognized the totalitarian thrust of this view of the judicial function. From it has stemmed a common persuasion that justice and morality generally are what the judges say they are; see Peter Berger, "The Battered Pillars of the American System: Religion," Fortune Magazine xci, no. 4, (April, 1975) 134-38, Susannah Lessard, "Notes and Comment," The New Yorker Magazine, May 23, 1977, Sanford Levinson, "The Specious Morality of the Law," Harper's Magazine, May, 1977, and Charles Curran, "Cooperation: Toward a Revision of the Concept and its Application,"

The Linacre Quarterly, 1974, 152-67; see esp. 161. Chief Justice Hughes, remarking in an unguarded moment that the law is what the judges say it is, was incomparably more modest.

8. This criticism was advanced in a radical form by Roberto M. Unger, Politics and Knowledge, (New York: The Free Press, 1976) some years before its yet further development in the movement called Critical Legal Studies.

9. Edward Schillebeeckx, Ministry: Leadership in the Community of Jesus Christ (New York: Crossroad, 1981); see especially the "Brief Hermeneutical Intermezzo," 100-04, and the concluding chapter, 105-142. Behind a good bit of the enthusiasm of the ex-Thomists for utopian political theologies is the notion derived from Plato by way of Aristotle that the material event or thing is in se unintelligible unless and until referred to a non-historical essential formal perfection. Thomas himself is not consistent on the point, but some Thomists have been sufficiently bemused by it to prevent them from finding any sacramental mediation of eschatological human perfection in historical institution. Once this point, a commonplace of late medieval nominalism, is granted, as it is by all the Reform confessions, a utopian politics becomes an implication of Christian hope, and with it, a destructive criticism of all historical institution.

10. Jürgen Moltmann, The Trinity and the Kingdom: The Doctrine of God (New York: Harper and Row, 1985) 209ff.

11. Johannes Metz, Faith in History and Society, translated by David Smith (New York: Seabury Press, A Crossroad Book, 1980); The Emergent Church, translated by Peter Mann (New York: Seabury Press; A Crossroad Book, 1981).

12. This is the substance of the criticism which has been brought against the so-called Pastoral on the Economy by such people as the editors of Crisis. Such answer as that criticism has received is hardly responsive.

13. Francis Biddle, Justice Holmes, Natural Law, and the Supreme Court (New York: The Macmillan Co., 1961), took up the cudgels for the virtuous secularist dogmatism of Justice Holmes as under assault by the choleric Catholicism of such clerics as Fr. Lucey. The latter's side of the debate is presented in "Jurisprudence and the Future Social Order," Social Science vol. 16 (1941) 211 ff., the article which aroused Mr. Biddle's anxiety in the first place, and in two later articles, the first a restatement of the original article in Social Science, and ten years later, one written in reply to such critics of his earlier work as Mark DeWolfe Howe and Fred Rodell: see "Natural law and American Legal Realism: Their Respective Contribution to a Theory of Law in a Democratic Society," Georgetown Law Journal 30 (1941-'42) 493-533, and "Holmes--Liberal, Humanitarian, Believer in Democracy?" Georgetown Law Journal 39 (1951-'52) 523-62. Some fifteen years before the publication of Mr. Biddle's book, the natural law had enjoyed a qualified revival, mainly by reason of its providing the sole possible jurisprudential basis for the Nuremberg trials and resulting convictions; see the exchange between Gustav Grundlach, S.J., "Moral estimate of the Nuremberg trial," America, Nov. 9, 1946, 149-151, and Edmund A. Walsh, S.J., "Comments and corollaries,"

ibid., 151-154. By nineteen-sixty, much had been forgotten, and the natural law was once more without esteem in secular circles. Mr. Biddle's waspish disdain for it was by then standard fare in most American law schools.

14. That the term itself is no longer entirely satisfactory to its academic advocates may be inferred from the need felt in 1969 to change the name of the annual Natural Law Forum to a title less explicit: see the "Foreword" by John Noonan in the renamed The American Journal of Jurisprudence 14 (1969) vi. The editors of that journal had already ignored a brilliant criticism of the conventional rationalist jurisprudence by Lord Patrick Devlin, whose 1958 Maccabean Lecture had upheld the traditional English reliance upon the propriety of the customary or common law determination of the content of the public decencies, offenses against which are indictable in Great Britain under the common law. In 1961, in a lecture delivered at the University of Pennsylvania Law School, he developed the same theme: commenting on the just-decided "Shaw's Case," he upheld the competence of a jury to determine the content of the public morality in a particular context, a question which can hardly be resolved abstractly and in advance by any finite amount of legislation. The post-war years have known no cause celèbre more crucial to natural law jurisprudence than Shaw v. Director of Public Prosecutions (1962 A.C. 220) in which the Law Lords of the British House of Lords maintained this most fundamental principle against the rationalist and implicitly elitist insistence that such determinations be controlled instead by the abstract, dehistoricized and ideal criteria supposedly in the possession only of a learned and therefore morally-responsible class: thus also spake J.S. Mill, and Plato in The Republic. The practicality, even the necessity, of such reliance upon a common law jury is the more clear today, when the impossibility of drawing up anticipatory statutes which will meet such ideal and abstract constitutional criteria and still be capable of concrete application to protect a valid public interest in the maintenance of the public decencies becomes ever more manifest in American courts, whose distrust of the legislature's moral responsibility echoes L.H.A. Hart, quondam Regius Professor of Jurisprudence at Oxford and Norman St. John-Stevas (cf. Life, Death and the Law) disdain for that of the common-law jury. At bottom, Hart and his peers wish to keep such judgments in their own hands, on the evident premise that the lower orders are morally incompetent, a view once discussible in one school of Catholic moral theology, but hardly available today. Lord Devlin's defense of the House of Lords' decision on the appeal in Shaw's Case, and of the common law jurisprudence grounding it, was an affront to the regnant academic reliance upon rationalist jurisprudence and dehistoricized morality. It brought down a storm of denunciation upon him and the common law tradition for which he spoke, and with which the natural law jurisprudents were once so closely allied. But in despite of its obvious topicality, the editors of the Natural Law Forum did not see fit to discuss Lord Devlin's argument in the Maccabean Lecture, or even to review his book, The Enforcement of Morals (Oxford University Press, 1965), in which the now-notorious 1958 Maccabean Lecture was republished together with the author's replies to the criticisms brought against it by such of the learned advocates of rationalist jurisprudence as L.H.A. Hart -- this although Hart's jejune reply to Lord Devlin lecture had received in that journal a most respectful attention; see Natural Law Forum 9 (1964) 151-54. This editorial ratification of the unanimous academic contempt for the moral judgment of the common man echoes Holmes, and well illustrates the elitism quite properly attacked by Critical Legal Studies. Unfortunately, that criticism goes

nowhere: the quest for value-neutral law is as futile as that for value-free physics --- reality must be qualified by freedom if it is to be interesting, if it is even to be intelligible. But that the destination of the natural law, when refused its historical incarnation in the practical moral decisions of the free public forum, is quite as abstract, quite as utopian, has been discovered by such of its quondam advocates as Joseph Fuchs of the Jesuit-run Gregorian University; Fuchs, having been persuaded of the purely ideal character of the natural law qua "natural," viz., insofar as rational, which he had lately defended, and of its consequent lack of historical substance, promptly abandoned it to become a leader of the consequentialist movement among Catholic moral theologians. That the law can be at once rational and supportive of human dignity in the historically concrete human situation is denied by all such rationalisms whether labelled positive or natural, and this on a common basis which is entirely pagan: the unexamined supposition that the criteria of the human truth and the human good are ideal, never concrete, never realizable in history, never appropriated by a free and responsible decision. This is also Hegel's view, whose eschatologism is rooted in the Reform's denial of the possibility of unambiguous and therefore significant moral conduct in history. From that stream the western world has since the 16th century drunk deep; the natural lawyers have now discovered the logic of their own "natural" tradition to be tributary to it. Finally, it is worth noting that Lord Devlin's preparation of his Maccabean Lecture prompted his conversion from a previous general adherence to the jurisprudence of J.S. Mill, for he discovered, in examining the possible further application of the rationalist logic of the 1957 Wolfenden Report urging the decriminalization of certain sexual offenses, (the product of a Committee in which Glanville Williams had at least as powerful an influence as John Noonan, in the book cited at note 21, infra, shows him to have had later upon the U.S. Supreme Court's abortion decisions), that the Wolfenden Report's dissociation of morality and law according to the canonical writings of J.S. Mill was an impossibility. The Maccabean Lecture simply pointed out that this is the case. Why that argument should be of so little interest to students of the natural law remains a most interesting question.

15. The affinity of the logic which permitted Holmes, in Buck v. Bell, to infer from his personal intimation that "three generations of imbeciles are enough" the sufficient warrant for their involuntary sterilization, with that logic which prevents a Catholic politician such as Governor Cuomo, speaking at the American Catholic citadel, Notre Dame University, from seeing his way clear to implementing in terms of political advocacy his own personal objection to abortion decisions is evident; the intimation that approves sterilizing those whose progency might well be incovenient is of a superior quality to that Roman Catholic intimation of the immorality, of that abomination: the latter intimation, which Governor Cuomo claims is also his own, cannot be imposed upon a free people, but that more accredited intimations of immorality may be thus imposed is shown by Governor Cuomo's announced intent to override any enactment into law by the New York legislature of the popular approval of capital punishment: in this more trendy context the Governor's sensitivity to the will of the people is not in operation. We have to do here with the now conventional nullification by public authority of the historical consensus of a free people, in favor of the rationalist utopian vision of an elite. This same utopian arrogance is the source of the Abortion Cases whose elitism Noonan has excoriated; see note 23 infra. For further illustration of the quality of the regnant American Catholic jurisprudence, see the testimony approving the Hatch Amendment given by Archbishop

John Roach of Minneapolis, then president of the N.C.C.B., before a Senate subcommittee (Origins 11 (1982) 357-359; the editors of Origins also found room (vol. 11, 495-500) for an article by a U.S.C.C. staff attorney, defending the Hatch Amendment, who dismissed as "philosophical" those objections to it as an absolute evil demanded instead an absolute constitutional ban on abortions across the board. This same unwillingness to see in abortion an evil whose constitutional ban is to be sought also characterizes Fr. Robert Drinan, S.J.: see "On File," Origins 5, no. 4 (June 19, 1975) 50. Drinan's intrusion of a legislative judgement had at least the color of legitimacy: he was at the time a member of the House of Representatives, however incongruously, and had been approached as such. But for a bishop to intrude his prudential judgment in a matter clearly within the province of the Catholic laity, and to do so in a context dispositive of their political options, is to assume the cosmological responsibility of protecting the universe against the unwisdom of the proles. Bishops' responsibilities are covenantal and sacramental; they have no other responsibilities, for no others exist in history. Only cosmic notions of responsibility can permit this intrusion upon the clear responsibility of the laity for the prudential choices of the political process. Ex officio, the bishops are not political leaders, pace the Schillebeeckxs and the Drinans.

16. The official spokesman for this movement is Roberto M. Unger, whose recent small book on the subject is an impassioned defense of its project; see The Critical Legal Studies Movement (Cambridge, MA: (Harvard University Press, 1986). A pamphlet recently issued by the Federalist Society presents a fairly representative spectrum of the opinions of the Harvard Law faculty on that topic: see A Discussion on Critical Legal Studies at the Harvard Law School, presented by The Harvard Society for law and public policy and The Federalist Society for law and public policy studies: Occasional Paper No. 1 (New York: The Harvard Club, 1985). The pamphlet is prefaced by a reference to Calvin Trillin's article, "A Reporter At Large: Harvard Law," The New Yorker, March 26, 1984, 53-83, which "brought to the attention of many Harvard Law School alumni the influence that the Critical Legal Studies movement is having at Harvard Law School."

17. Anaximander's famous apothegm ascribing all differentiation to injustice is examined inter alia by Werner Jaeger, The Theology of the Early Greek Philosophers, The Gifford Lectures for 1936 (London: The Clarendon Press of the Oxford University Press, 1948) 34-37, 207, citing R. Mondolfo's Problemi del pensiero antico (Bologna: 1936) 23 ff. "for a complete critical survey of the situation with regard to this difficult problem"), by F.M. Cornford, From Religion to Philosophy: A study in the origins of western speculation, Coll. Harper Torchbooks: The Cloister Library (New York: Harper and Row, 19571912) 7-12, and by H. and H.A. Frankfort et al., The Intellectual Adventure of Ancient Man: An Essay on Speculative Thought in the Ancient Near East, (Chicago and London: The University of Chicago Press, 1946), 379-80. The interpretations do not entirely agree: both Erwin Rohde, Psyche, p. 66, and Friedrich Nietzsche, Philosophie im traqischen Zeitalter der Griechen (both cited e contra, pp. 34 & 207, by Jaeger) wish to identify the supposed injustice with individuation itself, as also does Cornford (op. cit., 190); Jaeger considers the injustice rather to be material inequality as between things, a solution consistent with Origen's theory of the eternal creation of absolutely identical but individuated intelligences, whose later differentiation is by a greater or lesser moral fall from their original egalitarian condition. Much the

same notion enters into a good deal of the Neoplatonic misogyny of the Fathers, e.g., Origen, and in his notion, also proposed by Gregory of Nyssa, that sexual differentiation is the consequence of the fall. Behind or latent in the supposition that all differentiation is finally quantitative, and therefore due to an unequal (unjust) distribution in need of rectification, is a metaphysical dualism of monad and dyad, or as Pythagoras has it (Cornford, op. cit., 210), of a masculine Odd and a feminine Even: here the analysis provided by Rohde and Nietzsche finds a common ground with Jaeger's.

18. The phrase is original with Bruno Snell, Die Entdeckung des Geistes; Studien zur Entstehung des europaischen Denkens be i den Griechen (Hamburg: Claasen, 1955).

19. The remark concludes Noonan's review of Hart's The Concept of Law, in the Natural Law Forum 7 (1962) 169-77.

20. This tendency is already evident in Gutierrez, although he avoids an outright reductionism: see Gustavo Gutierrez, A Theology of Liberation: History, Politics and Salvation, translated and edited by Sr. Caridad Inda and John Eagleson, (Maryknoll, N.Y.: Orbis Books, 1973) 255-279, 281. His treatment of the Church as sacrament resists the reduction of the Gospel to a political program or ideology, but at the same time requires that the Church as an institution choose between the concretely given political options of a given place and time at whatever risk. He is thus able to speak too easily of "a true political consciousness in the Latin American masses," when what is in view is a series of political decisions made by a new-class ecclesial nomenklatura, i.e., by a credentialed class of Church functionaries whose presumptive resonance to the needs of the "masses" can only operate to deprive the people in the pews of the political and historical responsibility which their sacramental worship nonetheless underwrites and guarantees. The only alternative to such elitism, if the 'institutional Church' is to be effective as a politically liberating reality, is to rely upon her intrinsic and criteriological historicity, which is to say, upon the historicity of Catholic sacramental worship by which the Church is instituted and constituted in covenantal freedom and responsibility -- a worship which in fact is liberating, and not merely from sin. Taken seriously, which is to say, according to its reality as a sacrament, marriage is revolutionary with respect to any unjust structure or dynamic in society: it is here that any political theology compatible with the historical quality of the Church's worship must begin. Liberation feeds on the Eucharist, not on some preferred methodology of historical or social criticism. Apart from that sustenance, liberation of whatever sort is reduced to reliance upon a dehistoricizing ideology, for until authority and obedience are submitted to the criterion of the covenant which is concretely and historically actual in sacramental marriage, these notions remain abstract, monist, mutually exclusive, and thus arbitrary and finally despotic in their application. The non-covenantal character of contemporary liberation ecclesiologies is camouflaged by a perfervid protest against the elitism, the unjust division of labor, thought to be inherent in any liturgical and sacramental distinction as between clergy and laity or women and men; this protest then underwrites a politicized notion of clerical authority which effectively disenfranchises the laity. Lest this disenfranchisement in the name of liberation be thought mere supposition and inference, see the "prudential" pastoral letters on defense policy and economics recently issued by the U.S. National Conference of Catholic Bishops,

which make sense only on the supposition that in such sensitive issues the laity are to seriously consider abdicating their political responsibility in favor of the putatively superior "prudential" insight available to the episcopacy -- which is to say, available to the bishops' staffs, inasmuch as the bishops themselves with varying candor have made clear their personal inacquaintance with the subject matter of the policies they have so blithely underwritten. For surveys of this now-routine episcopal fecklessness, see Dinesh D'Souza, "The Bishops as Pawns: Behind the Scenes at the U.S. Catholic Conference," Policy Review (Fall, 1985) no. 34, 50-57, and E. Michael Jones, "Blueprint for a Revolution: The Canadian Bishops Issue Their Kit on Women," Fidelity, vol. 5, no. 5 (April, 1986) 22-34. Philip F. Lawler's essay, How Bishops Decide: An American case study (Washington, D.C.: Ethics and Public Policy Center, 1986) points up insouciance with which the American bishops and their U.S.C.C. staff produce pastoral letters. For other samples of liberation theology's revaluation of the Church's sacramental historicity, see Jean Segundo, Theology for the Artisans of a New Community, iv: The Sacraments Today, (Maryknoll, N.Y.: Orbis Books, 1974), 81ff; Jon Sobrino, Christology at the Crossroads: A Latin American Approach, Tr. by John Drury; (Maryknoll, N.Y.: Orbis Books, 1978), 300ff.; Leonardo Boff, Church, Charism and Power, Tr. by John W. Diercksmeier; (New York: Crossroad, 1985), 42ff., 76ff., 133ff., 161. The specifically antisacramental thrust of Boff's much-discussed theology is spelled out in Jesus Christ Liberator: A critical Christology for our time, Tr. by Patrick Hughes; (Maryknoll, N.Y.: Orbis Books, 1978) 95ff., 137ff., 219ff., 284, 293 and passim. The most recent Vatican document on liberation theology offers no indication of a relaxation of the condemnations heretofore uttered by the Congregation for the Doctrine of the Faith under the signature of Joseph Cardinal Ratzinger: see the "Instruction on Christian Freedom and Liberation," Origins vol. 15, no. 44 (April 17, 1986) 713-728, whose fuller discussion of the subject remains grounded in the normative historicity of the Church's Eucharistic worship, the norma normans et non normata of all liberation.

21. For Plato's utilitarian rationalization of marriage, see The Republic V:459-60, and F.M. Cornford, The Republic of Plato (New York and London: The Oxford University Press, 1964) 144-68. Engels characterized marriage as the first form of class oppression; see Frederick Engels, The Origin of the Family, Private Property and the State in the light of the researches of Lewis H. Morgan. Coll. Marxist Library: Works of Marxism-Leninism, v. 22 (New York: International Publishers, 1942), esp. 47ff. The Marxist indictment of marriage is well known; it is an unjust structure, an affront to the necessities of history and an obstacle to the achievement of the unqualified and monadic utopia which is the classless society, the Marxist eschaton. See also the citations collected by Robert Tucker, ed., The Marx-Engels Reader (New York: W.W. Norton & Co., 1978) 734-59, of which the following may stand as typical:

> The first class antagonism which appears in history coincides with the development of the antagonism between man and woman in monogamian marriage, and the first class oppression with that of the female sex by the male. (744-745)

Much of contemporary feminism is fueled by this rhetoric of the supposed 'fall' from the

romantically-conceived felicity of a primitive communism governed by Mutterrecht into the oppressive authoritarian structures of patriarchal society. The evidence for the existence of primitive matriarchy was examined in the last century by J.J. Bachofen, Das Mutterrecht: Eine Untersuchung über die Gynokratie der alten Welte nach ihrer religiösen and rechtlichen Natur. Zweite unveranderte Aufl. (Basel: Benno Schwabe Verlagsbuchhandlung, 1897); see also Myth, Religion and Mother Right: Selected Writings of Johann Jacob Bachofen. Translated by Ralph Manheim, with a preface by George Boas and an introduction by Joseph Campbell. Bollingen Series 84 (Princeton University Press, 1967). For more balanced views of Mutterrecht and the religion of the Mother Goddess than Engels and Marx provide, see Christopher Dawson, The Age of the Gods, A Study in the Origins of Culture in Prehistoric Europe and the Ancient East (London and New York: Sheed and Ward, 1933), esp. 87-107, and W.K.C. Guthrie, The Greeks and their Gods, (Boston: Beacon Press, 1954) esp. 26-66.

22. J.S. Mill, insofar as a utilitarian, is a "rule" utilitarian; the common good, the general happiness or welfare, is measured by an empirical standard: not the abstract quantification of overall satisfaction proposed by a Bentham or by James Mill, but the informed notion of utility held by a consensus of the enlightened, the privileged. There is of course then demanded or presupposed a cultural docility to or "recognition" of this "rule," and the entire educational establishment exists to inculcate that servility. At some point in his early career he became disillusioned with the Enlightenment utilitarianism of his father, James Mill, and Jeremy Bentham, and with the rationalism of Locke and Hobbes as well. Contemporary scholarship is split on the matter of Mill's proper labelling: F.L. van Holthoon, The Road to Utopia: A Study of John Stuart Mill's Social Thought (Assen: Van Gorcum, 1971) considers him to have ended as a Romantic; Maurice Cowling, Mills and Liberalism (Cambridge, Eng.: Cambridge University Press, 1963) and Richard Friedman, "An Introduction to Mill's Theory of Authority," in Mill: A Collection of Critical Essays, edited by J.B. Schneewind (Garden City, N.Y.: Doubleday, 1968), 379-425, consider him finally an authoritarian, others such as Bertrand Russell, while admitting his incoherencies find him at bottom a libertarian; see "John Stuart Mill," in Schneewind, op. cit., 1-20; see also the essays on Mill in Liberty ser. Nomos IV: The Yearbook of the American Society for Political and Legal Philosophy (New York: Atherton; London: Prentice Hall, 1962). It is in any event hard to imagine how a cultured class whose members took such pride in being able to read Plato in the original could have been so impressed by J.A. Mill's essays On Liberty and Utilitarianism; among the many editions see J.S. Mill On Liberty, edited with an introduction by Elizabeth Rapaport (Indianapolis: Hackett Pub. Co., 1978) and J.S. Mill, Utilitarianism, second revised ed., edited by Oskar Piest (New York: Liberal Arts Press, 1957).

23. John Noonan, A Private Choice: Abortion in America in the Seventies (New York: Free Press, 1979) describes the rationalist degradation of the notion of privacy traditional in Anglo-American law, most recently reaffirmed in Griswold v. Connecticut, 381.US. 479 (1965) but flatly rejected by the reasoning of Eisenstadt v. Baird, 405 U.S. 438 (1971), a case "decided after Roe v. Wade had been argued to the Court, so that its revolutionary rationale was probably invented with Roe v. Wade in view ---was in fact Roe v. Wade's only true precedent." (at 23). Associate Justice William Brennan, the Catholic member of the Court, wrote for the Eisenstadt majority, proclaiming the dogma of monadic privacy:

> If the right of privacy means anything, it is the right of the individual, married or single, to be free from unwarranted governmental intrusion into matters so fundamentally affecting a person as the decision whether to bear or beget a child. (Eisenstadt, at 453, cited by Noonan, op. cit., 21).

Noonan adds:

> In these words a liberty that had been based upon the special position of the married was made universal in a way that repudiated the legally privileged status of marriage (at 21).

This "revolutionary rationale" as Noonan designates it, is that of Jeremy Bentham and his enlightened followers; it is echoed by Charles Curran's moral theology, in e.g., Ongoing Revelation in Moral Theology (Notre Dame: Fides Press, 1975) where we may read what Bentham could hardly have said better:

> The above three criteria -- as much freedom as possible for the individual, the criterion of public order to justify state intervention by law, and the recognition of pragmatic prudential and feasible aspects in the law -- constitute the framework for the proper understanding of the relationship between law and morality. (at 133).

Nor is this rationale different from that used by the Catholic Theological Association of America (Origins 8<29 June, 1978> 88) to undercut the reservation of orders to men, nor that which is integral to the sociological ecclesiology favored by such contemporary Catholic theologians as Edward Schillebeeckx in Ministry: Leadership in the Community of Jesus Christ (New York: Crossroad, 1981), John Coleman in "The Future of Ministry," America, Mar. 8, 1981, and Bernard Cooke in Ministry to Word and Sacraments, History and Theology (Philadelphia: Fortress Press, 1976); it is equally integral to the historicism of Hans Kung in On Being A Christian (Garden City, N.Y.: Doubleday, 1976), of John O'Malley in "Reform, Historical Consciousness and Vatican II's Aggiornamento," Theological Studies 32 (1971) 55-71, and "Developments, Reforms, and Two Great Reformations: Towards a Historical Reassessment of Vatican II," Ibid, 44 (1983) 373-406, and of Avery Dulles' "Jus Divinum as an Ecumenical Problem," Theological Studies 38 (1977) 681-708:

> Once one admits that jus divinum may depend upon a development in time, it is difficult to insist upon an absolute irreversibility. What is appropriate or even necessary for a later stage is admitted to have been inappropriate or even impossible at an earlier time. If this is so, how can we say that at some future time or in some other culture the previous development might not again become inappropriate or impossible? (at 696).

In fact, the theological stance explicit in these and many other such writings is simply that of a Modernism made the fashionable orthodoxy. Like all such "higher criticism," it lives upon the presupposed superiority of the truth of autonomous rationality to that of the Church's "historically conditioned" tradition of the Revelation Who is Christ. The historical free covenantal civility intrinsic to the Federal Constitution is unlikely to offer much resistance to the universal solvent of a rational critique which, in the 19th century, could disintegrate the Christian revelation by dissociating the historical Jesus from the risen Christ, and which in the late 20th is employed by dissenting theologians to relativize every historical structure in the Church's worship.

24. See Raoul Berger, Government by Judiciary, (Cambridge, MA: Harvard University Press, 1980). Lon Fuller, The Morality of Law, rev. ed., (New Haven: Yale University Press, 1964) pointed out in a parable the fallacy of supposing the existence of a transcendent judicial intelligence whose ideal rationality would guarantee the rationality of the law; Ronald Dworkin, though well aware of Fuller's critical anticipation of the notion, has posited a judicial Hercules for precisely that purpose: see Taking Rights Seriously, (Cambridge, MA: Harvard University Press, 1978) 105-30.

25. See Noonan's citation of Lawrence Tribe:

> His thesis was that Roe v. Wade was an instance of the constitutional prohibition against the establishment of religion. The Constitution, he noted, forbade the establishment of religion. Laws regulating abortion, he claimed, were an establishment of religion. Therefore, he concluded, they were unconstitutional.
>
> To be sure, no one before Tribe had ever considered laws on killing to bear this kind of religious stamp. Tribe, however, argued that "whenever the views of organized religious groups have come to play a persuasive role in an entire subject's legislative consideration for reasons intrinsic to the subject matter as then understood," then the legislature cannot act without favoring a particular religious doctrine and thereby "establishing" a religion. (at 22)

But the end is not yet: another Constitutional scholar took Tribe's position to its conclusion:

> A third and by far the most candid effort to defend The Abortion Cases was made by Michael J. Perry. Perry, an assistant professor of law at Ohio State, boldly made the claim that the phrase "due process of law" in the Fourteenth Amendment meant more than "process." It had a "substantive" content, and the states were bound to observe that substance. Not only were the states bound not to violate that substance; they were under a positive duty to enact only laws which "involved" it. Perry identified this decisive "substance" with "the public welfare." And what defined the public welfare? To that crucial question, Perry

> replied forthrightly, "The scope of the 'public welfare' is a function of social conventions." Or, as he put it alternatively, "The basic determinants of the public welfare are the conventional attitudes of the socio-political culture." The court was assigned the task of making the states conform to the conventions of the day. (at 23)

That such conventions could not be informed by religion is of course the clear burden of the Constitution according to Tribe. Some years earlier, Noonan's late colleague at Boalt Hall in Berkeley, David Louisell, had written:

> Putting aside as far as possible the subjective value judgments grounded in attitudes toward religion (and also putting aside the idiosyncratic expressions of individual Justices as distinguished from the stance of the Court), perhaps the strongest case for the thesis that the Court is tilting against religion is based upon its use of its new "divisive" teaching. For it now seems to be the doctrine that a state violates the establishment clause when it effectuates a policy that results from a political contest wherein some of the politically successful partisans were religiously motivated. Lemon v. Kurtzman, 403 U.S. 602 (1971); Committee for Public Educ. v. Nyquist, 413 U.S. 756 (1973); Meek v. Pittenger, 95 S. Ct. 1753 (1975). This of course is only another way of saying that a citizen is effectively precluded from the democratic arena if his motive for entering it is based upon religious conviction. (Working paper prepared for the Program of the AALS Section on Law and Religion on December 28, 1975, 4-5).

26. One is reminded of Prof. Daniel Maguire's revision of the meaning of marriage: in his hands it becomes "the ultimate form of friendship achievable by sexually-attracted persons." (see "Of Sex and Ethical Methodology," Dimensions of Human Sexuality, ed. Dennis Doherty (Garden City, N.Y.: Doubleday, 1979) at 130.) Supposing that the term "persons" in Dr. Maguire's definition connotes humanity, those who prefer sexual attachments to animals may well complain of their exclusion from ultimacy, under the strict egalitarian heading of contemporary rationality, and the limitation will be found difficult to justify.

27. Noonan, A Private Choice, 33-46.

28. Yale Kamisar, "Some Religious Views against 'Mercy Killing' Legislation," Minnesota Law Review 42 (1958) 969-1042. Glanville Williams, then the leader of the English organization dedicated to the liberalization of abortion laws, replied in "Mercy Killing Legislation: A Rejoinder," ibid, 43 (1958) 1-12. Noonan, op. cit. 35, 53, has pointed out William's major role in the events leading to the court-mandated reform of the abortion laws of the United States.

29. Criminal prosecutions of medical personnel involved in the procuring of abortions which failed to terminate in the death of the fetus until after some hours of deliberate neglect

of the delivered infant have never been finally successful, and are no longer brought. A woman's unqualified right to an abortion effectively now includes also a right to a dead fetus, and the medical profession, ordinarily resistant to interference with the canons of its practice, has accommodated its ethics without protest to this novel interpretation of the physician's professional responsibility. The consequences of a failure of consensual moral conviction in a profession is well illustrated here: the life of the profession, whether medicine or law or whatever occupation connoting a public responsibility, does in fact become logic ---pace Justice Holmes and his famous dictum to the contrary.

30. Richard Neuhaus, The Naked Public Square: Religion and Democracy in America (Grand Rapids, MI: Eerdmans, 1984).

31. A most vivid example is provided by the obstacles encountered by a world-class historian and exegete, Fr. René Laurentin, in publishing a book (The Truth of Christmas, Beyond the Myth, the Gospels of the Infancy of Christ (Petersham, MA: St. Bede's Publications, 1986), which no major U.S. publisher would touch because it dared to disagree with the mainstream of American Catholic exegesis, although the book had been honored by the French Academy and given high praise by Cardinal Ratzinger; see the account by Michael J. Wrenn, in "Censorship in Scriptural Studies," Crisis vol. 4., no. 11 (Dec., 1986) 23-25. George Gilder's Men and Marriage (Pelican Publishing Co., 1986) met the same resistance from publishers as a result of its contravention of the feminist gospel.

32. Hannah Arendt, Totalitarianism: Part Three of The Origins of Totalitarianism (New York: Harcourt, Brace and World, 1968), esp. ch. 4.

33. Harold Berman, Law and Revolution: The Formation of the Western Legal Tradition (Cambridge, MA: Harvard University Press, 1983) points out the decisive contribution of the Gregorian Reform to the development of the Western understanding of law as the source rather than the product of authority, an understanding which Berman, whose major field of expertise is Soviet law, fears is in the process of dissolution.

34. Augustine's theology of history is condensed in books 18 and 19 of The City of God; a fine study of this theology is R.A. Markus, Saeculum: History and Society in the Theology of Augustine (New York: Columbia University Press, 1970).

35. Mircea Eliade, The Sacred and the Profane: The nature of religion. Translated by Willard R. Trask (San Diego, New York, London: Harcourt, Brace, Jovanovich, 1959).

36. To affirm the irrelevance of rationalism to the law of a free people is not to contravert Max Weber's maxim to the effect that all law tends toward rationality; rather it is to insist that law, like religious faith, cannot be comprehended within an ideology. As faith is always in search of a more profound understanding than is ever in possession --- which quest is the work of theology ---so also is civility, the free consensus of the civil community, always in a posture of quaerens intellectum; this quaerens is the task of jurisprudence. But as theology is subordinated to the historical faith out of which its quaerens

continually emerges, so also is jurisprudential theory subordinated to the historical actuality of the free civil consensus; no more than theology is jurisprudence able to transcend its origin and cause. Attempts by either discipline so to become thus absolute or autonomous can only produce sterile ideologies whose imposition upon history is always by way of the dehistoricization of a reality, whether the historical faith or the historical legal tradition, whose free historicity is the index of its transcendence of all ideologies.

37. George H. Nash, The Conservative Intellectual Movement in America Since 1945 (New York: Basic Books, 1975) records the efforts of the conservative movement in the United States over a period of thirty years to find a means of reconciling their commitments to individual liberty on the one hand and to community on the other; to free inquiry on the one hand and to tradition on the other; to the religious ground of freedom on the one hand, and to the separation of Church and State on the other. He recites the achievement of a foggy sort of consensus, but the practical "fusion" of variant emphases which it attempts has not found a coherent theoretical expression. The failure is not to be wondered at; the participants in the conservative debate, regardless of their common rejection of utopian rationalizations of the human condition, escape these only by refusing to pursue certain implications of their own rationale. The fundamental symbol underlying all free community is free, incapable of being reduced to a timeless ratio; it is the covenant, whose intelligibility is historical, not ideal, that of an event, not of a structure. The conservative problem is finally very much like the liberal one: both are trying to construct a cosmos out of ideas, not to appropriate a free history by the worship of the Lord of history. Yet apart from that worship, the center does not hold, for it is a historical center with which we are concerned.

38. Pope Gelasius provided the lambent formula: "There are two chief factors by which this world is ruled, the sacred authority of bishops and the power of kings." This is the first formal assertion of the separation of Church and State.

39. For a classic discussion of this classic pagan notion of authority and its institutional impact, see N.D. Fustel de Coulanges The Ancient City: A study on the Religion, Laws and Religion of Ancient Greece and Rome (Garden City, N.Y.: Doubleday, 1955), and Sir Henry Maine, Ancient Law (London, Melbourne and Toronto: Dent; New York: Dutton, 1977). The term "cosmic" denotes the pagan world view, and as such is opposed to the historicality of the Judaeo-Christian faith: see H.U. von Balthasar, The God Question and Modern Man; tr. by Hilda Graef, with an introduction by John Macquarrie (New York: Seabury Press, 1967). It finds expression in the Stoic morality which underlies much of the Roman law. This morality is one of responsibility to the cosmos, whose timeless structure is endangered by change, by freedom, by all the spontaneities that disturb the static perfection of a quasi-divine and ab aeterno cosmic order. A cosmic morality thus distrusts and fears the free futurity integral to the Judaeo-Christian world-view, and condemns the exercise of a free personal responsibility for that future. It is then evident that the Christian faith is radically incompatible with the notions of authority, obedience, civic virtue, etc. which are postulated by the Roman law as it was received from the pagan empire. Clearly, by the time Justinian's jurisconsults have reworked it in the 6th century, the conversion of the Roman law to the covenantal historicity of a Christian civilization is already under way; see

Michael Azkoul, "Sacerdotium and Imperium," Theological Studies 32 (1971) 431-64, Cyril Toumanoff, "Caesaropapism in Byzantium and Russia," Ibid., 7 (1946) 213-43, and Yves Congar, "The Sacralization of Western Society in the Middle Ages," Sacralization and Secularization: ser. Concilium 47 (1969) 55-71, and Christopher Dawson, Progress and Religion: an historical enquiry (London: Sheed and Ward, 1929). Even today however the conversion from cosmological to covenantal jurisprudence is very far from complete: the historicity of authority is still little understood, obedience to the law is still confused with a pagan servility, and the exercise of free responsibility is still accounted in some manner Promethean, à la Marx.

40. Michael Malbin, Religion and Politics: the Intentions of the Framers of the First Amendment, 1978, (Washington: American Enterprise Institute for Public Policy Research, 1978).

41. Marsilius of Padua, The Defender of Peace: The Defensor Pacis; translated with an introduction by Alan Gewirth (New York: Harper and Row, 1956).

42. J.S. Mill pursues this theme in The Subjection of Women, written four years before his death; see Essays on Sex Equality by J.S. Mill and Harriet Taylor Mill, with an introduction by Alice S. Rossi (Chicago: University of Chicago Press, 1957). Other examples abound in the massive study by Frank and Fritzi Manuel, Utopian Thought in the Western World (Cambridge, MA: Harvard University Press, 1979); see also Charles Erasmus, In Search of The Common Good (New York: Macmillan, 1977).

43. See the recitation by George H. Nash, The Conservative Movement in America Since 1945, of the internecine disagreements among the intellectual leaders of the conservative movement since the second world war; in them the subject does not arise. George Gilder, Wealth and Poverty, (New York: Basic Books, 1980; Men and Marriage (Pelican Publishing Co., 1986), seems to be the first to have noticed the interrelation, and he has not been praised much for having done so; still less have the political and jurisprudential implications of his insight been given any theoretical appreciation.

44. See Neuhaus' analysis of the numerical insignificance of the homosexual liaisons whose claim to attention succeeded in subverting the marital orientation of the White House Conference on "Families:" Neuhaus, op. cit., 97.

45. See Neuhaus, op. cit., 96-7, for a description of his experience as a member of the 1981 White House Conference On Families, whose name had been changed by the time of its formal institution by President Carter in 1978, under intense pressure from the homosexual lobby, from the originally planned "White House Conference on the Family", thereby lending presidential support to the secular rejection of the traditional understanding of the family as heterosexual and marital, and establishing an ambiguity in such federal policies and programs as might be in support of it. A similar ambiguity is presented by the American episcopacy: speaking of the N.C.C.B. Family Life Program, Archbishop Jadot, then Apostolic Delegate, had this to say:

> The American program offers such a hope. This I suggest is for two reasons. It is very comprehensive. No one is left out. It involves ministry to single people, couples preparing for marriage, the married, the divorced, what it calls "developing" and "hurting" families. (Origins 8, no. 22 (Nov. 16, 1978) at 339) Emphasis added.

46. John Paul II has developed brilliantly the nuptial quality of human freedom in Original Unity of Man and Woman: Catechesis on the Book of Genesis, translated by Donald W. Wuerl (Boston: St. Paul editions, 1981), Blessed are the Pure of Heart: Catechesis on the Sermon of the Mount and Writings of St. Paul, Preface by Donald W. Wuerl (Boston: St. Paul Editions, 1983), Reflection on Humanae Vitae: Conjugal Morality and Spirituality, Preface by Rev. Msgr. Donald W. Wuerl (Boston: St. Paul Editions, 1984), The Theology of Marriage and Celibacy: Catechesis on Marriage and Celibacy in the Light of the Resurrection of the Body, Preface by Most Rev. Donald W. Wuerl, D.D. (Boston: St. Paul Editions, 1986), and more formally in his Apostolic Exhortation on the family, published as The Role of the Christian Family in the Modern World: Familiaris Consortio (Boston: St. Paul Editions, n.d.), and in his encyclical letter of 4 March, 1979, Redeemer of Man: Redemptor Hominis (Washington, D.C.: Publications Office, U.S.C.C.), of 30 November, 1980, Rich in Mercy: Dives in Misericordia (Boston: St. Paul Editions, n.d.) and of 18 May, 1986, On the Holy Spirit in the Life of the Church and the World: Dominum Vivificantem (Boston: St. Paul Editions, n.d.).

47. The phrase is Belloc's; the reality it points to begins to be our own. When the propriety of police roadblocks thrown across interstate highways in order to detect examine the sobriety of everyone driving an automobile is upheld by the highest tribunals in the state and arouses no popular protest, the servile police state is already in being, present and effective, no longer, as it was for Belloc, a speculative possibility of a remote future. The absence of any articulate objection to the notion that the "privilege" of driving on a public highway is "granted" only in derogation of one's Constitutional protection against unwarranted search and seizure is quite as alarming as the official policy itself, for this apathy before authority is the characteristic of an already atomized society, made up of persons whose dignity is no longer covenantal, no longer inviolable, no longer a personal affirmation into history, but a fragile "privilege" uneasily at the disposition of bureaucrats.

It may be argued that such inconveniences are minor, the inevitable price of existence in a complex society. Thus argues technological reason, for which all immunity to power is irrational. But this is what freedom means: it is a quality which is irreducibly to quantity, and so is not available to the utilitarian manipulations by which any exercise of power can be justified.

48. See S. Robert Lichter and Stanley Rothman, The Media Elite and American Values (Washington, D.C.: Ethics and Public Policy Center, April, 1982).

49. See the account in the New York Times 1, 23: 1 (Oct. 8, 1985) of the final resolution by the U.S. Supreme Court of the dispute over the burial of some 16,000 fetal remains retrieved from the refuse bin of the "laboratory" where they had been dumped, after whatever commercial utility they had possessed had been exhausted.

## SESSION I

BRUNGS: There is a constellation of powerful forces coming together in our society. These forces have changed our society and will continue to do so even more in the future. Let me mention a few.

There is a radical new direction in science and the way it's practiced. Science and technology by and large have been directed to the betterment of human beings by changing the environment external to us. The building of bridges, the draining of swamps, transportation networks, communications, the domestication of various plants and animals have looked to human betterment. Now, particularly in the life sciences, we're beginning to reach out for a technology aimed at bettering human beings. There's a great deal of difference between betterment and bettering. We're beginning to think in terms of changing that environment which is internal to us in order to make us better. That's a different approach from, say, physics or chemistry which were more basically concerned with the external environment. The pharmaceutical industry occupies a special, middle ground. It is a bridge between the old and new. But there is a new direction to our science and to our technology.

Also, not too long ago, science was primarily directed toward knowledge. It still is when it comes to funding things like bigger particle accelerators. We are doing science, we are told, in order to learn how the universe was put together. That was a fundamental thrust of scientific investigation. To an extent it still is. Now, however, that thrust seems to be at least partly subordinated to a desire to alter the natural systems, particularly living systems. We could argue about that. But I think we put heavier emphasis on alteration than on perception and knowledge.

Concurrently there has been a revolt against communal and social authority which goes back at least to World War I and the subsequent breakdown of what Walter Lippmann called the "public philosophy" or what John Courtney Murray called the "public consensus." That lack of a public consensus has a step-child, the "right to privacy." We emphasize our individual rights over our communal obligations. Walter Lippmann, 60 years ago, said that ethics is becoming simply a traffic code that will allow as many desires to run along with as few collisions as possible. That's part of the social matrix in which we look at biotechnology and law. We might ask whether this will lead to a tyranny not of law but of laws. Murray pointed out that, as laws multiply and become more intrusive, they become more impotent. Whether he's right or not is something that we can perhaps talk about.

We intend to deal with science and technology: what is happening, what is about to happen, where is this going, what does it mean? We will also treat the law: what is happening in law, where is it going, and what might it mean? Also, the culture, in which the science and technology and law are embedded, will in turn be affected, if not effected, by the biotechnologies and by law, especially the law created to meet the challenges coming from those technologies. What is the state of our society? What will result if we continue to travel much in the direction in which we've been traveling? Are we likely to have a new direction?

It's a very broad and vast field. In order to handle it as expeditiously as we can, we shall treat one topic in each session. This is not meant to be a straight jacket, but an attempt to bring some order into what is a very complex set of issues. Tonight we'll hear from each of the essayists. In the first session tomorrow morning we shall consider animal and plant research, patents, property rights, and so on. The second session tomorrow (Session III of the meeting) will be on human research, particularly genetics. The afternoon session will center on the reproductive technologies -- in vitro fertilization, surrogate motherhood, the whole set of issues under the umbrella of the reproductive technologies. The evening session will focus on the technologies of keeping people alive, technologies of feeding and hydrating people and like issues. The first session on Sunday morning will be on the state of culture, law and the meaning questions that surround the biotechnologies and law. Session VII would be sort of a summary and a reprise.

That's an ideal schedule. What we actually do is up to you. This is your meeting.

KRIVI: My particular research interests initially focused on the production of monoclonal antibodies and on hybridoma technology, which really serviced all of the life sciences research at Monsanto. More recently I've been involved in a variety of projects related to the identification and characterization of protein molecules which can be used to enhance productivity in animals. I'm familiar with the plant technology, much of which has been developed actually at Monsanto, althought I have not been involved in that research. I will attempt, however, to answer people's questions as best I can about that area, although I'm more familiar with the animal work.

I appreciate the opportunity to be here and to meet all of you. I haven't had a lot of opportunities to talk about the area of agriculture and biotechnology. It's certainly one of the most controversial areas in biotechnology. It's not quite so controversial as human genetic manipulations -- Dr. Anderson's topic -- but it has had a lot of press. There's been a lot of talk about releasing genetically modified organisms into the environment as well as about the use of productivity enhancers in both animal and plant agriculture and its effects on the future of agriculture. So it's a controversial area. It is an extremely powerful tool and carries a great hope, in my mind, for increasing productivity in agriculture. In the United States we hear about surpluses of milk, of grain, of meant. That's not true globally. The distribution of food globally is really a problem arising from political and economic issues. Were it not for that, we wouldn't have those surpluses. We live in a unique environment in the United States.

It's important to realize that the world population, currently a little over 5 billion people, will be about 8 billion people by 2020. The U.S. Department of Agriculture has estimated that we will need a 60 percent increase in food production during the next 20 to 30 years, in order to feed that population. Of course, political and economic issues will have to be resolved, in order to distribute that food.

To produce additional food, we're going to have to increase agricultural productivity. In the past, agricultural productivity has been increased mainly through the addition of more land

into the agricultural sector. We knock down more forests and plow more fields -- a practice with negative implications. In some regions there simply is no more usable land. In other areas this is not feasible environmentally.

Another way to increase productivity is to increase the efficiency of production. Through history this has been done by selecting appropriate plants and animals to domesticate. In the 20th century, the rediscovery of Mendel's genetics has enabled plant and animal breeders to develop more productive lines of domestic plants and animals. Additional efficiency in agricultural productivity has come from the use of chemicals and of energy intensive machinery in the agricultural sector. These have been very important technologies in agricultural productivity. However, they have their drawbacks.

Breeding and selection, has no basic drawbacks except that the process is very slow. Often when we breed two plants or two animals together, we don't get the positive traits. We end up with a mixture of things and in many cases, probably most cases, we do not come out with a commercially better animal or plant. The use of chemicals and of energy intensive machinery carry environmental problems. We all know what chemicals have done to the environment. Dioxin's an example, but there are plenty of others as well. We would probably all agree that we don't want to increase the use of chemicals in agriculture. I see biotechnology as a way in which we can get away from additional use of chemicals and of capital intensive equipment to improve agricultural productivity.

In my essay I mentioned the potential for both plant and animal biotechnology. I don't really want to focus on that tonight. I'd like to focus specifically on the controversial areas that have been in the press. Admittedly, I'm coming from one point of view but I have thought a lot about the benefits and risks associated with this technology. I want to share my point of view with you.

As I mentioned in my essay, there are essentially two types of global applications of biotechnology to agriculture: 1. the actual use of genetically engineered organisms to produce protein products which can be administered generally to animals. I don't know of too many examples where this will happen with plants. A good example of this would be the growth hormones, more correctly called somatotropins, which are being developed by a number of companies to enhance productivity in both the milk and the swine industry; 2. the actual genetic modification of crop species and of animal species eventually, with the subsequent release of these genetically modified plants, actually microorganisms, into the environment. This has clearly been the more controversial area. I'd like to talk primarily about that second area, because it's the more controversial one. Maybe tomorrow we'll have a chance to talk a little bit about the protein drug area as well.

There's been a lot in the press about planting genetically engineered seeds out in the field for crop plants. There has also been a lot of coverage on the release of genetically engineered microorganisms into the field. The major concerns seem to be environmental damage that can be caused by the release of these "new" organisms. It's important to keep in mind a number of scientific facts when we assess the risk versus the benefit of release of these organisms. We're

talking now about organisms, plants in particular, that have been modified to make their own protein insecticides, to make their own resistance to viruses, or to environmentally safe chemical herbicides which are less toxic than those used today. We can see the benefit to the environment, if farmers converted to the use of some of these modified crop plants.

It is important to keep in mind that no two individuals in a species are genetically identical. When you put a field of corn plants out, none of those plants are genetically absolutely identical one to the other. The genes change, and they change in the lifetime of an organism. You're not working on a static background when you're genetically modifying an organism. The characteristics of an individual in a species are coded for by thousands of genes, not by a single gene. There's no way you can change a single gene in me, in you, in a corn plant or a tomato plant and make that not a tomato or not a corn plant. Genetic exchange is going on in nature all the time, not only within species but also between species in many cases.

Those are background facts to keep in mind when we're talking about modifying a commercially important species, by adding either one or a small number of genes which have been studied relatively carefully in the laboratory to that plant's genetic complement or by removing a gene from that organism.

There are two major risks that people talk about. The first involves the introduction of a new organism into the environment, potentially resulting in the invasion of the local environment by that organism. Examples commonly used concern the introduction of things like the gypsy moth or the kudzu vine. You can think of a number of other examples where there's been real problems with the introduction of a new species into a new environment. That is clearly a risk. That has to be evaluated carefully for any genetically modified organism that we're working with. But again, keep in mind that we aren't going to be able to change a tomato plant from a tomato to something different by introducing a single gene. Most of the plants that we're currently trying to get clearance to test in the field involve the change of a single gene or the introduction of a single gene.

Secondly, it's important to remember that hundreds of thousands of new plants or new animals or new microorganisms have been introduced into new environments over the course of the history. Most of our food plants in current use were introduced into the United States. They weren't native. Not every introduction of a foreign species into a new environment causes environmental disaster. Disaster can happen. But not every introduction is a disaster. In fact, the majority are not.

It's also important to look at the specific examples people cite as problems in this area. They involve the introduction of a highly evolved species whose thousands of genes have all been evolving over evolutionary time to make that species what it is. Presumably that species has a very important niche in the environment it came from. So, we're not talking about one slight change of a gene. We're talking about genes that have evolved over a course of time to make this organism well adapted to live and survive in the environment. There are some differences between introducing kudzu vine and introducing a tomato plant that contains the gene coding for an insecticide, particularly <u>bacillus thuringiensis</u> toxin, which is one of the examples I talked about in the essay.

Another major concern, in terms of environmental release, is that the genetically engineered organisms are potential pathogens. This is particularly a concern when we're talking about the environmental release of microorganisms. In fact, most of the risks I'm talking about are actually magnified in the case of microorganisms, as opposed to plants. The microorganism question and the pathogen question raise again the issue of risk. We have to recognize that. There is a potential risk. In the early days of genetic engineering, there was a great deal of concern about whether our genetically modified microorganisms -- mostly E. coli at that point (and it is still our workhorse actually) -- would cause a variety of medical problems for the researchers working in the field. Many of the important scientists in the field at that time convened a meeting in Asilomar and set up a series of guidelines for carrying out genetic engineering research. Almost ten years later there is no documented case of any scientist, or for that matter any citizen, living or working in an area around a research university or an industrial organization doing genetic engineering research having had any kind of documented ill effect from a genetically engineered microorganism. Hundreds of thousands of them have been worked with, and I know of no documented ill effects.

So, unless we are specifically working with genes that are known to code for human or animal toxins, a major risk from releasing an engineered organism is unlikely. This is particularly true since we will be working with genes that we understand and have studied well and know what they code for in terms of a protein.

These are the two major risk areas. A number of other things have been discussed in the press. Will we modify, change, the soil in an area by adding a new microorganism, thereby destroying that soil for use with a particular kind of crop. Again, these things are potential risks. The real key we have to recognize and be comfortable with is that there will be a set of guidelines set up by government regulatory agencies. Who's actually regulating this technology is getting straightened out only now. But there should be a series of guidelines that say what types of testing must be done in the green house or in controlled environments prior to release. We need carefully planned field tests in order to study these genetically engineered organisms in the field. But I feel that, if we deny the opportunity to get out in the field and test this kind of a concept, we are really shutting the door on a technology that can have tremendously important benefits for mankind into the 21st century.

I'd be glad, maybe tomorrow, to talk about some of the questions surrounding the use of drugs like the bovine and porcine somatotropins in animal technology as well as to discuss more about the plant technology and the microorganism technology.

SALIWANCHIK: The last time I talked to this group six years ago, our topic was the patenting of a living organism. I tried to show that the patent system could handle this scientific advance. There could still be a suitable public disclosure. I argued that there was no problem with the patenting of a living organism. I was asked, "Is the patenting of a living human being next?" If those asking that question had really understood what was being done at the scientific level, they wouldn't have asked the question at all. As Gwen can attest, the laboratory work is designed primarily for industrial, environmental, and medicinal benefits. We're not trying to capture the human mind or to control the human race in any form.

Fr. Brungs has asked what is happening in the field. I'll address this first. In patent law, since the decision that microorganisms are patentable under the U.S. Patent Law, we have advanced to the position wherein numerous patents have been issued on all types of biotechnology inventions in molecular biology, antibiotics, and a variety of other biotechnologies. Unfortunately we are still not getting the full scope of protection that we should have. It's going to take a little sorting out by the Patent Office before we get to that position. But we are moving very rapidly.

What do patents for biotechnology mean to the public? A patent comes after an invention. An invention has to be made. You don't get a patent for something that doesn't contribute to solving some problem in society. What benefit accrues to the public? The public learns of the invention. If we didn't have a patent system, we would keep our work secret. We don't have to disclose it to anybody. The common law says that, if you know something, you don't have to disclose it to another person. You don't have to disclose an invention to another person. The law recognized this problem way back in the 1700's in the United States and in foreign countries. The issue was how the public would gain knowledge of these inventions. This is important for the public in assessing the necessity for the invention, the risk in putting it to use, and then, going further, making new inventions.

As Gwen pointed out, we are nowhere near a state of self-sufficiency throughout the world in food or in environmental living conditions. Many improvements must be made. Scientists are not trying to alter the world. They are merely trying to bring it back to where it may have been a few years back, in a relatively clean environmental state. I represent industrial clients who work on these problems. They are developing means to clean up the environment, to clean up some of the toxic waste dump sites. These people can only do this kind of work if, in the end, they have funds to pay people to do the work. The patent system might provide those funds.

Most patents, whether in medicine or any areas of science, are merely disclosures to the public. Very few ever become commercially valuable. So the public is the prime beneficiary of the patent system. People gain knowledge. They can start from that point and go further to develop further inventions. Scientists and the organizations that support the scientists realize benefits from but a fraction of their work. Without profit from this work they can't pay for further research. If the research isn't carried on, the problems will remain unsolved.

I have clients who work on better systems for providing food. I am glad to hear all the work Monsanto is doing. I suspected that they were doing a lot of good work. As a patent attorney I try to serve such people. If I can help them continue to employ scientists to do this work, that's fine. That's what it's all about. The United States is not alone in this posture. Other countries throughtout the world are realizing the same situation. The patent system is justified by the needs of the public. Science serves the public and the patent lawyers serve the scientists.

In my essay I give an idea of the various kinds of patents that are being granted. If you want to discuss one of these patents or these inventions, I'd be very happy to do so. These

aren't all my patents. I chose them at random. They represent the type of biotechnological research that's going on and the type that the U.S. Patent Office is recognizing as invention. This is important because it stimulates research. We need a strong patent system. Without it scientists won't be as motivated. We all are more highly motivated if the rewards surpass our regular salary.

I've seen this in working with corporate scientists for many years and later working with scientists outside of the corporate setting or those working in small companies. I do a lot of work with small biotechnology companies that are trying to make it into the business world. They may have only one or two projects that are very important to them. They need a strong patent system to support their efforts. Without a strong patent system, some of the large companies will not permit them to compete. This would be unfortunate for society. We need these small companies. We need individual inventors who can come up with new ideas. A creative person does not necessarily work well in a large corporate setting. I encourage scientists at all levels to continue in this particular area. We're emphasizing biotechnology here, but we could be talking about any other area of our many sciences. It's equally appropriate to look at them in the same manner.

Fr. Brungs mentioned intrusive laws. We can begin to recognize it in the situation where a sick person, for example, has a cancer cut out and the cancerous tissue is subsequently analyzed by technicians and scientists. Suppose they find that the diseased tissue contains a section of DNA -- the basic building block of the human being and human life in a biological sense -- that's very important and very efficient when used in a genetic engineering setting to promote the production of useful proteins. They've actually been able to do this. Interferon is an example. This is where the issue arose. Why shouldn't the person that had that diseased tissue, which others have made commercial gain on, participate in the rewards of that experiment or advance?

The cases that have come before the courts arose when this science was just beginning and there were no expectations of commercial benefit and profit. When profit suddenly entered the picture they realized that there should have been some kind of an understanding between the patient and the hospital. If there is a subsequent commercialization of the tissue perhaps the donor, or the donor's estate, should benefit. But that's an issue apart from patent law.

If a scientist for whom I work obtains a diseased tissue which can ultimately be engineered into a microorganism to produce a protein in a highly productive way, I'll willingly apply for a patent for it. It's new, useful and unobvious. It benefits society to know about it. No one takes anything away from the storehouse of scientific knowledge. That scientist adds to it, giving society something it did not have before. This is the primary purpose of the patent system. Also, secondarily, if it is commercially beneficial, the innovators are duly rewarded. This is as it should be.

ANDERSON: My essay concerns the potential field of human gene therapy. It is timely. Two weeks from today we will submit to the Human Gene Therapy Subcommittee of the Recombinant DNA Advisory Committee of the National Institutes of Health a pre-

clinical data document which is the first step in requesting approval for carrying out the first human gene therapy experiment.

The state of the art for doing gene therapy is, in brief, our ability to take a human gene which is defective, in a type of human disease, to put that gene into a monkey using the identical protocol that will be used for a human infant and to get the gene to express in the blood stream of the monkey for a period of time. The gene we're talking about is for ADA deficiency (the technical term is adenosine deaminase). The patients die in the first year of life from an inability to resist infections because of the absence of the gene. There are a number of reasons why this particular disease is the most likely initial candidate. In my essay I go into those reasons.

We can ask what can be controversial about being able to cure an infant who would otherwise die in the first year of life. I've been speaking on and writing about the ethics of this situation since 1971, I guess, when Alex Capron and myself and Paul Ramsey and others attended a conference that Ken Hamilton gave on the new genetics back, I think, in the fall of 1970. A book came out of that conference.

There are a number of reasons why society is uneasy about this. Being able to put a gene into a human being will not make that individual into a different person. It was just pointed out that, with animals and plants, putting in a single gene won't change a tomato plant into something else. Nor will a single gene change a human being in terms of his or her basic structure. But we are now manipulating something very fundamental. That makes people very nervous.

One of the concerns is that, as soon as one starts being able to manipulate the genome of an individual, the potential is there also for altering the germ line and, therefore, changing all future generations even though in a small way. Also, the potential is there for attempting to enhance or improve human characteristics rather than simply correcting a genetic defect. Then one gets into the whole area of eugenics. The distinction between the question of betterment of mankind and attempting to better mankind was pointed out nicely at the beginning of the session.

Even deeper than that, I think, is a concern that, since we know so little about what makes up our humanness, at what point are we going to endanger our humanness, if we start manipulating our fundamental genes. It is easy enough to say, well, we've got 100,000 genes. The potential for changing anything really significant by adding one or two additional genes to that 100,000 really is very small. I am known as a conservative in this area. The basic reason for that conservatism is that we know very little about the make-up of our physical being, what genes go into making our body organs and so on. We know practically nothing about what goes into human thought. We have absolutely no knowledge about what goes into our spiritual side. Although we have reached a point where we can technically start to manipulate the fundamental basis on which our human bodies and minds are formed (namely it's DNA), we don't understand what would happen if we do it. It is, therefore, an area of great unknowing. We can have great power to do good if we use it in an appropriate way, namely for the

correction of clear genetic defects, those that produce suffering and death. But it also carries the potential for considerable mischief. The second session tomorrow morning will be the time we go into these points.

BLACKMAR: As a Judge, I deal with the law in prace. For most things that happen in the state of Missouri, the Supreme Court is the court of last resort. It is supposed to superintend the legal system, as the Constitution says. So we have to make decisions.

I tried to emphasize in my paper that, when people come to the courts, the courts have to make a decision. A decision against the claimant is as much a decision as a decision for the claimant. Even throwing somebody out of court and saying "you don't have anything that we can give you any help with" is a decision. A delayed decision also is a decision.

In some cases judges will have the benefit of, or at least the availability of, precedent from courts of their own jurisdiction or from other courts. In some cases there will be guidance from the legislature. Sometimes the presence of a statute makes more problems than it solves. In some cases the judge is often limited to his or her own resources in reaching a decision, but a decision still has to be made subject, of course, to review by the appellate tribunals in the particular jurisdiction. But the first decision is a very important one. If a controversy is brought to court, a decision will be made. If somebody comes into court and says, "There is a man next door to me who is trying to cross cats with rattlesnakes and I want him stopped," there is the occasion for a decision.

The courts are accustomed to making decisions that relate to the break up of families. It's not for us simply to turn the people out on the ground that they haven't been behaving as they should. Others are affected. Children are affected. The decision has to be made. We get cases to review in which a marriage has been dissolved and in which the court has said that one parent or the other is to have custody of the child or children. I see those. Sometimes I Might not agree with the way the trial judge decided the question, but I have to remember that the trial judge has a great deal of information that I don't have.

Another problem: a court will say that although Marjorie is certainly the natural mother of John, Majorie is an unfit parent and, therefore, I am permanently terminating Marjorie's parental rights and responsibilties. It's a decision frequently made. Very often the courts which make that decision have input from attaches of the court who are presumably expert in the field. That I may have some questions implies no disrespect to people who have worked hard on studying problems of this kind and have done their best in dealing with them. It's a momentous decision. It runs against the course of nature. It's especially serious if the child is of sufficient years to know perfectly well who his or her natural parents are. Nevertheless, a court may say that the natural parents are out and possibly another set of parents are in. In our imperfect society it is a decision which would have to be made.

The Baby M case is now in the papers. I hadn't figured on talking about that primarily, but it has come into prominence. I had our librarian get a copy of the opinion which I've placed in Fr. Brungs' charge and it will be available during the conference for anybody who

is interested. I warn you that it is about 120 pages, without summary and condensation. It shows how one member of the judiciary struggled with a remarkable problem.

Those are some of the problems that might come up. I question myself whether it is desirable at this time to go extensively into legislation. The judge who decided the Baby M case said, "I wish I had some statutory law to guide me." I wonder whether the legislatures can wisely and effectively come out with a code for deciding problems like this. I wonder whether it isn't desirable to proceed as the common law has, and have a few more cases so that people may better understand the problem.

I considered other problems relating to technology apart from genetic engineering. I mentioned the cases of heroic methods to keep life going when there is no meaningful life. I would be interested in input from some of the people who are medically trained. One thing I've always wondered is, if you give up too easily, how do you know that something will not be discovered which will result in a different solution for cases that have been regarded as hopeless.

I think sometimes that we judges have a hard time because we are beset by academics, by commentators. A few days ago James J. Kilpatrick took on the Supreme Court of the United States for a couple of decisions which he called puerile and infantile. Well, he can do that and there's very little that the judge can say. But we still have to keep on deciding and calling them as we see them. It's a complicated subject with interesting implications.

KEEFE: My function here is to look with a perhaps cold eye upon the state of law in a situation of enormous complexity. Some 30 years ago Hans Urs von Balthasar the author of some 65 or 70 books on theology, wrote one of very great value. In its present edition, it's called "The God Question and Modern Man." In it he pursues a theme that has dominated his theological career -- the fact that the western culture has passed within the past millenium from a kind of cultural automatic (or, as he says, cosmological) universality to a quest for a universality on the basis of history. Let me contrast the two ideas.

The old Greek understanding of the city-state, the polis, gives a fair understanding of the cosmos. Aristotle thought that the polis should be limited to twenty-five to thirty thousand people. It should have plebs, artisans, soldiers and a ruling class. The classes were more or less static, the structure of the community was static and the entire notion of law was the preservation of the status quo. Custom was the rule and conformity was the meaning of virtue. Novelty, the private assumption of personal responsibility for a free future -- this was the very essence of iniquity.

With the conversion of the western world to Christianity and with the more or less official institution of Christianity in the 4th century under Constantine, there was a change from the Greek notion of human perfection toward one for which we are still in search. In the old pagan society it was understood that there are normative structures in the world which furnish a natural set of criteria by which the human is judged. The human is then transcended by the cosmos. The Christian message says no: the cosmos is not sacred; it is at best sacramental; human beings have responsibilities in and for it which cannot be met by mere plastic obedience,

conformity, following the leader. That responsibility, then, is not cosmological but historical. Our worship of the Lord of history guarantees for us a history into which we go sustained only by that guarantee. We cannot by ourselves provide the security of our future. Yet our desire, our demand, our insistence upon living into a free future is the very structure of freedom as we understand it in the western world.

The passage from cosmos to history is not an easy one. The Book of Exodus records that at the waters of Meribah the followers of Moses wished to turn back to seek again the securities of a world which might well be servile but, nonetheless, one in which the trains ran on time, so to speak. This is a temptation for all of us who worship the Lord of history, however vagrantly, fugitively, inadequately. We are all tempted to close down the quest for the new because it's dangerous. It is dangerous: the future is at risk and we cannot guarantee it. Attempts to do so are always attempts to nullify that future by closing off the freedoms which make it new.

We are passing then from a cosmological uniformity to some kind of historical community whose nature is in some manner up for grabs. There is within our society a perennial temptation to recede from this historical unity and to seek refuge from the perils of freedom in a determinist community where whatever is listed is commanded and whatever is free is forbidden.

In the years in which I have been involved with this search for historical pluralism, the tensions have mounted on many, many levels -- the church-state problem which began with the Everson case in '47; the meaning of patriotism at issue in the Korean War and more in Vietnam; the meaning of our religious unity at issue in the founding of the World Council of Churches in 1948 and more in the Vatican Council 15 years later. It is probable that the roots of this tension can be traced back to the fifth century, although contemporary historians tend to trace them back to the 11th. Several scholars suggest that the basis of western law and the notion of a dynamic process of history toward a free future begins pretty much with the Gregorian reform in the middle of the 11th century. That reform overthrew the static cosmological world view of feudal Christianity.

The question of the meaning of freedom over against the authority of society has become crucial. Over and over again the ancient cosmological problem has been posed: how can man be free if the cosmos is to remain safe? And over and over again the answer is returned: man's freedom is dangerous, nonetheless he must be free. The temptation, on the one hand, to flout the security of society, or on the other, to derogate from human freedom is the continuing temptation before all law makers, whether voters, legislators, judges, attorneys, whatever. This is the continuing enduring problem caused by the presence of Christianity in the world, by the presence of the impetus toward the new which is thought to be the good on grounds which can never be proven.

There is no logical justification whatever for supposing that the new is the good. And yet every baby that learns to walk knows that this is a good idea, even though it bumps its head everytime it takes a step. Every child that goes to school scared stiff is nonetheless fascinated by the new. So it is for everyone of us until the day we die. This goes against all the

rationalizations of the world at least from Plato onward. The notion of securing the state against time, the devourer of all things, has been a foremost item on the agenda for a very long time.

Today, technology poses "the great threat." It does not take much imagination to see that playing games with E. coli, the pet bacterium of the genetic researcher, can get out of hand. All of us are hosts to a large number of these little animals. If they get out of hand, so also does our interior mechanism. Inasmuch as this is very intimate to us, we may all be profoundly concerned. This, of course, is only the beginning.

We have on the one hand a technology seen as creative, one which can bring about the new which is good, which is open ended, which has no outer limits. On the other hand, there's a technology which is manipulative, which can reduce us to things, shove us back into the cosmos, make us the objects of those necessitarian laws by which the physical universe may be thought to be organized.

It is now fairly clear that no scientific inquiry can survive, if it is not supposed that the reality under investigation is free. No physicist, however intent upon the Grand Theory, which will include everything within its grasp, really supposes it's going to happen. It would ruin his day if it did. No matter how intent we may be upon our technological inquiry, the excitement of going into the lab does not include the hope that we can close its doors forever. We want to keep the doors open and keep asking fool questions. This is the name of the game and we love to play it. But we love to play it, oddly enough, as Christians. Stanley Jaki, a great historian of science, is, among other things, a theologian of mark as well. He's the recent recipient of the Templeton Prize and has been a Gifford lecturer. Jaki has pointed out, in season and out, that unless the very brute world of things out there is inexhaustibly new at every inquiry, science cannot proceed. Pierre Duhem, 70 or 80 years ago, had exactly the same insight. Because it ran counter to the science of his time, he was suppressed.

Yet this faith in the new is religious faith. It underwrites the scientific pursuit of knowledge. The great cultures of China, of the Mediterranean world, of Egypt and Babylonia developed nothing more than a craft. They were not less intelligent than we are today nor were their resources less. Their imaginations were not inferior. But, insofar as they were concerned, the truth was ideal, not historical, not concrete, something to be contained in the mind. They thought that if man would understand the true, he would retreat from all the confusion of the multipolicity of this world, its novelties, mutability, its newness. He would go back to the unchanging relationships between ideas and pursue them within his pointy little head. That goes nowhere. All we investigate there is our own vacuity.

Our problem today, as von Balthasar has pointed out, is not an overt temptation to reduce truth once more to cosmos. No one today, whether Protestant, Catholic, Christian, Jew, theist, atheist, is willing to go back to a world view in which he or she is submitted to a necessitarian and deterministic structure of law. This is intolerable. We live in a post-Christian age, and even the atheist has learned what it is to be free, and will not go back. Nor will we.

The problem is how to remain free. Today we are poised between two choices. One is exemplified by Karl Jaspers a great German existentialist thinker, who wishes all truth to remain relative. No one can claim to know an absolute truth because to claim such knowledge is immediately to suppress the possibility of a conversation, the sort of thing that makes a university, for example, to be a university. Bertram Russell had this in view, when he observed in his apothegmatic fashion that a Catholic university is a contradiction in terms, because Catholicism is doctrinal, dogmatic, possessed of an absolute truth which is not to be denied -- Jesus is the Lord and that's that. Jaspers and Russell and many another think that saying this forecloses the possibility of academic freedom. We have people of this opinion running many universities calling themselves Christian and Catholic.

The problem, then, is whether one can pursue the truth under the guise of relativism. If that is the way it must be pursued, then the name of the game is that there really is no game. It is a power play and those who win are those who win. It isn't that they have found the truth. It is that they have won, because there is no criterion by which the value of their victory may be judged. Everything is relative and one viewpoint is in the end not subject to the criticism of any other. The alternative which says that there is absolute truth given in the world is immediately suspect of renewing the Spanish Inquisition. One may ask then whether this is the case. Does a doctrinal commitment make one fundamentally a bigot? According to our opinion makers, those who insist that some things are always and everywhere abominable have no ground to stand on, because they are imposing their views on a free people. But is not this view an absolute in itself? Aren't they saying that such an imposition is absolutely bad? And if this absolute truth is accepted, perhaps a few others may sneak in.

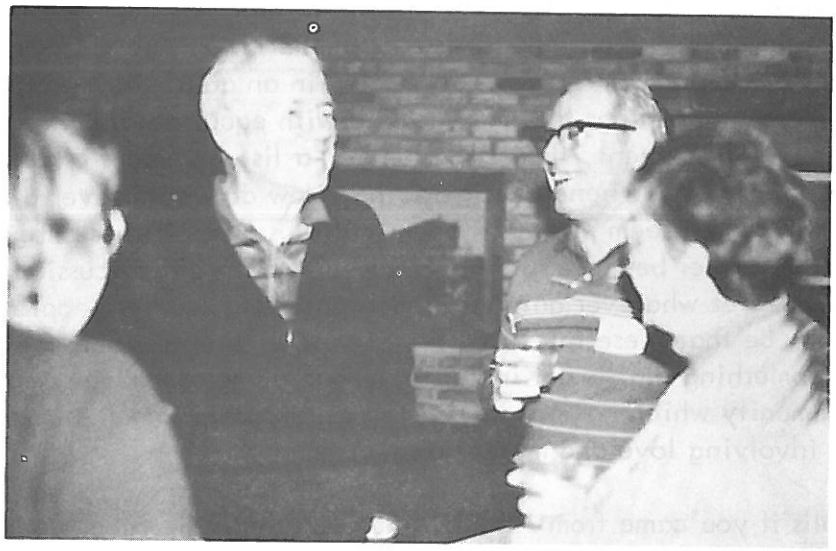
We don't like slavery a whole lot. There was no objection in 1863 or '4 or '5 against the condemnation learned from the Abolitionists. When the war was over and the 14th and 15th Amendments were presented and passed. It is part of the law of the land that one person may not enslave another, and this is most assuredly rooted in an appreciation of the Christian revelation. Are there other things that may be said with equal absoluteness? If you ask the members of the feminist movement, they can give you a list. Various other movements are willing to propose absolutes. Whence their origin? How do we discover them? That they are in being is clear. They seem not to be open to discussion. If these are not open to discussion, it must be either because there is a way of closing off discussion by brute force, by power, by the force of whatever autocratic manipulation of other people's views may be available, or it may be that these intuitions are part of what used to be known as the natural law. That law is something that is not innate to human beings as human beings, but is innate to a Christian community which has understood the relationships among human beings in a novel fashion, as involving love and mutual respect.

Back in the polis if you came from Athens, you could hate the rubes from the Argive with great freedom. You could loathe the Spartans, despise the Boeotians, all of which made you no less a good Athenian. It indeed made you a better one because, outside the cosmos, there are demons and only demons. We find indications of this in all the world languages. Laos, means "the people." The Eskimo word Innuit means "the people." Outside these people, there are no people.

Christianity is not able to isolate people from people. We are charged by our Lord with a love of everyone. We are charged with an obligation to everyone. This creates a society in which a great deal is left unsaid. Out of this emerged the common law, the common decencies which govern a people before it is necessary to spell out a great deal of law.

English law, like American law, is somewhat schizophrenic. Part of it comes from a highly despotic understanding of law inherited from Rome -- the will of the prince is a source of law. Another equally, and perhaps more, powerful current comes from the customary law of the German peoples -- law takes its shape from a common consent over the decades and the centuries. The latter is a free understanding of what the law may be, particularly when that people is converted to Christianity and the Christian decencies begin to infuse the customs of the people. This is a slow process.

We are in a situation now where we are forced to ask what the criteria are by which judges, lawyers, courts, legislatures may be guided. Are they those of a mere utilitarian prudence -- it would be nice if we do it this way on account of such-and-such things will happen? Or is there a basis for the law which is not utilitarian but which is a view of the human as holy, as the image of God? I think the latter is to a very great extent at once instinctive to, and in danger of being extinguished from, Anglo-American law. This is very much the subject before us today in this conference and in the day or two succeeding.



Bishop Mark J. Hurley, Brother Dominic Dunn, FSC

BRUNGS: We shall deal in this session with animal and plant studies, with patent laws and property rights and so on. There was a brief article in the March 27th issue of Science entitled "OTA (Office of Technology Assessment): Property Right, Donor Consent Factors About 'Gifts' of Human Tissue." It begins: "Twenty years ago the thought of a patient claiming rights to a drug derived from his cancerous tumor would have seemed remote to researchers, but for scientists developing new diagnostic tools and drugs through biotechnology, the prospect of losing parts of the financial rewards of that work is no longer inconceivable. At the same time, there is a growing concern about the rights of people who donate raw tissue and sell material for research. Must researchers disclose to tissue donors that subsequent research could lead to a commercial product, and should companies and institutions share any resulting profits with tissue donors or their heirs?"

Later in the article it says that "amid this legal quagmire, many researchers, universities, and companies have begun to strengthen their disclosure procedures. Cetus Corporation of Emoryville, California, for example, requires institutions supplying cell lines or human tissues to demonstrate that the material was obtained through informed consent and that they have a clear title. At Centocor, Inc., at Malvern, Pennsylvania, donors are offered a one time advance payment or a royalty on any product that results from the donation of cells or tissues."

That's but one aspect of the material we'll be talking about this morning. Roman and Gwen broached other issues last evening.

SALIWANCHIK: I briefly alluded to this new situation last night. A few years back, when a person went into a hospital with a cancerous tumor or some other diseased organism, he or she was happy that the doctor took it out and kept it. The patient had no desire for anything but better health.

We're not talking just about molecular biology. There's the large area of immunology and others. Because of the sophistication of the research, we are now able to take biological tissues and remove certain factors from them which make these particular tissues infectious or cancerous. A cancer can grow rapidly because of certain DNA segments. If you can pull out the segment of DNA, which is innocuous in and of itself, and put that segment of DNA before another gene that makes a useful protein, you can stimulate the production of that particular protein in a microorganism. This accounts for commercial interest.

Researchers found that the segment of DNA, which they call the promoter region, promoted the elaboration of this cancerous growth. They discovered that, if they attach it prior to a desirable protein like interferon and engineered this material into a microorganism, the microorganism makes a large amount of interferon. This couldn't be done otherwise. It becomes an efficient production process. Who's to benefit by this conversion of a worthless, undesirable material to a very valuable commercial entity? Nowadays, you might suspect that there would be some benefit accruing from anything that you may have wrong with you. I see no reason why, in the legal system as we have it, you can't negotiate for some type of a position with regard to anything that's taken from your body, so long as you can identify ultimately the commercial reality that comes from this particular tissue.

Unfortunately, some people believe that what they have in the form of a cancerous tissue or the DNA is very valuable at that stage. It isn't. It needs a lot of scientific work. You should expect very little commercially in terms of royalties or payments. It's valueless unless scientists subsequently do a lot of work on it. Some people expect too much up front. They don't have anything of great value at that point. Contracts of this nature, realistically demand an appreciation of the total economics of the situation.

The legal system is in place to handle this type of contract. It's no different from women selling hair to a wig maker. I don't see where this is "selling a part of your body." You're using a part of your body that is no longer useful to you. It's no different from selling blood. It benefits the patient to get rid of the cancerous tissue or the infected tissue.

CHANDLER: I've heard two things: "we're only addint the gene to the organism but we're not changing that organism into something else -- it's still a human being" and "well, that's a piece of a human being and it's mine, so I can sell it." So we seem to be saying: "a little change isn't important to our humanness" and also we're saying "I can sell that important thing." Isn't there a tension here?

SALIWANCHIK: I'm talking about a process for making chemical compounds (proteins) outside the human body. I'm talking about taking a piece of DNA from a cancerous tissue, for example, that's pulled out of a person for medical reasons. Scientists may discover a segment of DNA in that tissue that can be used outside of the human body. It never goes back into a human body again. It goes into a microorganism. The microorganism, cultured in a fermentation vat, produces a chemical which is then separated from the vat. It's a purified chemical compound which is then used as a medicine. That DNA never goes back into a human body -- that DNA is not the protein or the medicine. The organism makes the protein by reading the DNA. We are not taking a piece of DNA from one person and putting it into another one.

MOREY: This is not a revolutionary concept. The economic society commonly places economic value on raw material that is subsequently fabricated into some other type. This is a relatively unimportant issue frankly in the total spectrum of what we're talking about here. The society will put an economic value on what this raw material is worth.

KRIVI: I agree. Roman made an important point. People have to recognize the true economic value of that raw material. There seems to be a very unrealistic opinion of potential economic value at the time you take a tissue out. It's very, very unusual to find a piece of DNA which is ultimately going to lead to an important therapeutic. In the best situation, it's going to take a lot of work. I agree that this is probably a less controversial issue than many of the other things that we could be talking about.

KLAUS: There's only one issue which I think is important, namely, the notion that everything we do or are has a dollar sign attached to it. That worries me.

JUNGKUNTZ: I am interested, Roman, in your belief that the legal system is

in place to deal with this. Don Keefe is concerned that there's an erosion of the legal system in terms of the criteria that it uses. That may be Hanna's point. If an understanding of the human mainly in terms of dollars or of usefulness for chemicals becomes the criterion for decision-making, the future is frightening. What are the criteria that are being used within our culture and our society deciding such potentially emerging questions? I assume that's where the theological encounter will occur. I'd like to hear Roman and Gwen respond to Don's paper.

BLACKMAR: How much of a problem is the situation that Fr. Brungs tendered? I gather that a specimen of tissue is taken from a patient during a surgical procedure. Some use is made of it and sometime later a commercial product is developed. Then the patient comes along and says, "You owe me something, because you took a piece of my body and made a profit." I'm not aware of any claim of that kind that has been made. I can see difficulties in proving just what happened. No doubt one could obtain a valid consent. The legal system has a place for that. If I were a research scientist, I don't believe I would be seriously disturbed about not working on any tissue until I had an abstract of title which showed that consent had been given. It is possible to work out some kind of a consent. Hardly a surgical operation is performed without obtaining a release. Quite often it will be claimed that in spite of the words of the release and the consent that it was not an informed consent because sufficient explanation wasn't made. Those who are concerned about it might try to work out some kind of release. But I don't believe that a scientist need hesitate because of the absence of a release.

SALIWANCHIK: The issue came up four or five years ago in the making of the antiviral interferon which is normally found in the body. When your temperature goes up, your body produces interferon to combat a viral infection. They discovered the substance years ago, but they could never make it in large enough quantities to test it as an antiviral agent in human beings or animals. Molecular biologists found a section of DNA in a cancerous tumor that was excised from a person in California. They worked with this DNA, took it out of the tumor tissue, worked with it, spliced it into a microorganism right ahead of the gene that produces the interferon. It made a large quantity of interferon. This is what they were trying to do.

When they were able to do that, the estate of the donor of that cancerous tissue brought suit against the company, because permission had been given to the doctor only to excise the tissue. No permission was given for subsequent use in commercial development. They didn't foresee that possibility either. The case never got to trial. The parties, sensing that this was such a novel legal issue, settled out of court. So we don't have any decisions on this issue now.

In California today, there is considerable talk about this issue because the fear of such claims inhibits the researchers in the genetic engineering companies. They want to resolve the legal complexity before they get into deep work. The work is expensive and they don't want to give up the profit.

What rights does a person have to this material at the stage that it's taken out of the body? This is a little bit analogous to antibiotics in the old days. People used to send samples of soils from all over the world to the pharmaceutical companies, to have them screened for organisms that produced antibiotics. The sender of the soil samples had no conception which organism in there might produce a useful antibiotic. Still, some people tried to lay claim to a subsequent discovery of the antibiotic from that soil sample. It's a little bit further away than this, but I think there is an analogy.

BRUNGS: I mentioned this merely as an example of the issues involved here. This article in Science does end up with this sentence which I think is important. "Ultimately, says OTA, the resolution of these issues may depend on how Congress chooses to regulate the procurement and distribution of human tissues and cells." Regulation is important here because much of our law now is cast in terms of agency regulation.

BLACKMAR: I find it interesting myself. I would think that the use of tissue and its later commercial value is a matter purely of state law, not of federal regulation. Within limits, Congress would have authority. So far as I know, no government agency, state or federal, has any authority whatsoever to make any kind of a ruling or decision on problems of this kind.

CHANDLER: I'm surprised you considered state law. There is federal law in the area of blood and blood products regulating biologicals and regulating vaccines. That belongs to the Department of Public Health Service.

BLACKMAR: Yes, there is. There are a myriad of federal laws that test the matter, but I was addressing the question on the rights of a patient to his or her own tissue. I had assumed that if a patient were interested in doing so, they could instruct the surgeon "when you're through, deliver it to me in a bottle," if anyone had thought to do that. I had rather assumed that, if the patient doesn't make any claim to it, it would be treated as abandoned property. Even though the whole area of production of medicinal products is heavily federally impacted, I don't believe that that includes the authority to make a ruling on something like this.

MOREY: But federal regulation is concerned with national social safety, as opposed to determinations of value to the claimants. In my mind, that's the difference. I'm not an attorney but it seems as if Public Health is trying to protect the society from some kinds of substances that could be abused or which are potentially dangerous.

BLACKMAR: When something is a real worry (a drug or a critical product, say) various federal regulations must be complied with before it can be produced and marketed. Then you have a products liability suit. There are lots of state decisions that say that it doesn't really control the situation, that all of the federal requirements were followed. Those are merely standards. If they're not followed, you are in trouble. But even though they are followed, if the product turns out to be unreasonably dangerous, there still may be a ground for liability. Now that is something that manufacturers should and are really....

KRIVI: That's the vaccine controversy.

MOREY: But again, when you're talking about liability, you're really talking about value and damage, as opposed to the overriding issue of controlling potential hazards of the substance to the society - Right?

BLACKMAR: That is absolutely correct, yes.

DOOLAN: Just a medical cynicism. Most surgeons would be delighted to tell the patient that his or her tumor might be worth something. It seems to me as if this has more legal possibilities than medical possibilities. I enjoyed Judge Blackmar's paper. He looks at the legal system with a knowledge that I don't possess. We doctors are very frightened. At every medical executive committee meeting I've attended, the general feeling is that informed consents are worthless. They're worthless if they're signed, or if they're on audio tapes. There's nothing that bright lawyers can't get you on.

I've been interested in enzymes. How you get enzymes out of tissues depends on a lot of things. I don't know whether you can harvest DNA out of tissue that's gone down to have a frozen section on it, or if it's been stuck in some formaldehyde, or whatever else has happened to it. Biochemically, it would seem to me as though the only tumors we're talking about so far are things like insulinomas or tumors that produce hormones. We're not really talking about the most frequent cancers, are we -- breast cancer, colon cancer, this type of thing?

DUNN: I find Dr. Doolan's remarks rather interesting. I'm on the internal review board for the University of Tennessee Medical Units. In one of our last sessions, the question came up, and was referred to the legal advisor to the board, as to whether the board could be sued and whether individual members of the board could be sued. That question is still in abeyance. It still hasn't been resolved.

DOOLAN: The board can be sued. There's a famous midwestern case in which a cast was put on too tightly. The nurse called the orthopedist a couple of times. The orthopedist didn't come in. The high school football player lost his leg, and the board was sued. Everybody got sued, up to and including the board.

O'ROURKE: Brother Dunn was talking about the institutional review board, which is different from the board of trustees. I don't have the law before me, but I think that in Missouri the institutional review board and ethics committees are exempt from being sued. Do we have that exemption, Judge?

BLACKMAR: Let me see. The case that we had was concerned with a claimant getting the minutes of meetings of an institutional review board. This is the only one that I remember. We held that they could. Then the legislature, acting within its proper authority, decided that that should not be the case. Now, the proceedings of peer review panels are privileged and cannot be obtained by outsiders. That illustrates the proper functioning of the court and the legislature.

DOOLAN: At St. Mary's Hospital, the ICU committee reviews all deaths. The minutes are issued to the members of that committee as they go into the committee review and the minutes are shredded as soon as the meeting is over. I, as director, relayed the point that we're immune, and I got patted on the head for my naivete. Now, the minutes are shredded. This is part of my problem with the law. The review is not fundamentally thoughtful. You present these difficult cases and then you take the minutes and, without any adequate time for reflection, the minutes are shredded.

BLACKMAR: If you buy a Chrysler and the front wheel comes off, you've got a very good lawsuit against Chrysler, but you can't sue Lee Iacocca. If you have a hospital organized as a corporation and some complaint is made, you may be able to sue the hospital depending on where you are and what kind of hospital it is. But I don't see how you would have a suit against the board of directors. But if a board has information, it may be required to give that information. If the minutes are shredded, then somebody may ask you, "Well, what do you remember about these minutes?" I shudder to think what is going to be said to the jury.

MOREY: Anybody or any entity could be named in any filing of a suit. I'm in the reinsurance business. There are reinsurance underwriters of malpractice and directors and officers liability coverage that are very concerned about what derivative liability there may be. This is particularly true in the health area in a malpractice situation. How far can they take the potential liability: from the individual? from the facility where the procedure was performed? to the review process? beyond the review process to the health plan itself? beyond the health plan to the management of the health plan? Does the health plan have potential liability since it set up or influenced the review process of the procedure? A lot of people are trying to figure out what potential liability there is and how far it goes. Does it go all the way to the management of an insurer? It's theoretically possible that the chairman of Prudential Insurance has liability, because the company has a health plan in an area and that health plan in turn contracts with some providers, who in turn have review procedure, who in turn review the practitioners, who in turn performed the procedure. You can trace this thing all the way up the line.

BLACKMAR: Law professors used to beset students by asking: "Can you sue?" After the student stumbled around, the answer would be: "Of course, you can sue." The question is can you recover. I see no viable claim against the president of Prudential. I see no reason for a concern. People don't like to be sued, true.

MOREY: But it's indicative of what Dr. Doolan is saying. We have a paranoid society on this subject.

SALIWANCHIK: You're right on that. It's necessary to bring to trial some of these cases where suits are brought against many parties. Let the courts come out with some decisions, instead of the insurance companies settling out of court. Many insurance companies settle these claims because they don't want to go through the expense of a trial. As a result, insurance costs go up because we have no good legal decisions on these points. Somebody's

going to have to litigate these cases so that there is some guidance for the rest of the community. I see no legal responsibility after a certain point. Since many of these things are settled out of court, this issue has never been put on the table.

HURLEY: Everybody can get sued. We get sued at the Santa Rosa diocese about twice a month. We get sued when someone slips on a banana peel or someone doesn't like what the pastor said from the pulpit. Lawsuits are filed without sworn testimony or the client's signature.

We have a very serious problem with AIDS in San Francisco. A blood bank sold tainted blood and the patient contracted AIDS. There is no question of the fact. They have successfully resisted lawsuits on a legal notion that, when you purchase blood from a blood bank, it is not a contract, even though you pay for it. It is a service and, therefore, you take your chances. This is germane to our topic. You can sue, but you have to show, much like the libel laws for the press, the grossest kind of negligence -- even though it was clearly established that, at least between certain dates (about 1983 to 1985), AIDS was being transmitted through this blood. The blood bank absolutely did not test for AIDS.

I came out of surgery at the University of California Medical Center in September. My blood was very low. They did not give me blood. I had to build it up on my own because they were afraid of hepatitis and AIDS. This happened in one of the most progressive hospitals in America. Yet, if we sue, we are told that blood is only a service.

KLAUS: I would contrast that with the Baby M case, where an alledged contract was held up. There's a little incongruity in that.

HURLEY: With all due respect, I have a major problem with why the judge in the Baby M case validated that kind of a contract. I don't think the material was apt for a contract under any circumstances. For a contract to be valid you need more than the agreement of both parties. The material has to be apt. Take marriage as a contract. If there is some essential fault in there, even unknown, you don't say: "well, a bargain is a bargain." The aptness of the material should be primary in any kind of a contract.

FITZGERALD: I'd like to ask Roman and Gwen how deeply the fear of litigation has affected the research field. At previous meetings we've talked about research guidelines. Is research moving along only as the pursuit of truth? We've been concerned about the way in which economics determines the direction of research. Is this fear of litigation going to put a boundary to the direction of research? Is that a worry within the research community?

KRIVI: In the area of recombinant DNA technology, scientists themselves chose to put a series of guidelines and safeguards on the way in which they were going to carry out their research. At Asilomar, in 1976 -- I don't remember the exact date -- the leaders in the field of recombinant DNA technology decided on a set of guidelines. There was no government intervention, no litigation then. With experience, we've come to realize that many, if not most, of the experiments in this area are not dangerous. There has been no

documented case of any danger or any problem coming out of recombinant DNA technology. Because of that, the guidelines have been relaxed, but not eliminated in certain cases. The scientists themselves regulated their own actions.

In the agricultural field, issues like the release of genetically engineered organisms into the environment have become controversial. Companies like Monsanto and others, who want to do this, have been working very carefully to avoid any problem with the public. We're probably doing more extensive testing on our genetically engineered microorganisms and plants then companies, which have been breeding new plant breeds or new animal breeds, ever did. We are concerned about what might happen, and we also want to be sure we address issues in public.

There's been very little guidance from federal regulatory agencies about what they want a company like Monsanto to do before they go out into the field to test, in a very limited way, a genetically engineered organism. That's been a problem area up until the last few months. Now the regulatory agencies are beginning to decide who is going to do what and who's going to have jurisdiction over what. Scientists themselves have regulated their own actions. Does that answer your question?

FITZGERALD: In the San Francisco Bay area they were going to release micro-organisms that prevent frost. Supposedly, they had gone through the system and had done all the checks. The experiment was going to take place. An environmental group came in and got an action to block the experiment. The company had to start all over. Where does that put them?

It always seems to come down to a cost/benefit analysis. There is always the chance that there may be damage to the environment. Certainly there's a risk in everything, no matter what. Informed consent has always been a big thing in biomedical ethics. In a simple little operation, one could die from a reaction to the anesthetic. If we always stick only to a cost/benefit analysis in deciding a principle, where are we going to go?

BLACKMAR: You're echoing the somewhat facetious hypothetical example I gave last night about the people trying to cross cats with rattlesnakes. Someone, maybe knowledgeable, maybe not, says that certain bizarre experiments are going on. You're talking about what we call a restraining order or an injunction. Someone says that these scientists are going to try a strange and mysterious experiment and it can produce all kinds of devastation. Some of the people who make these complaints purport to be knowledgeable -- and some certainly are. They go to a judge who knows nothing about it and say, "This is Friday and they're going to do this tomorrow morning." The judge then signs a temporary restraining order. The judge is saying in effect: I have to hear from both sides but, until I can do that, I'll stop it." It's more complex than that, but you gave a tangible example of the kind of thing I was talking about.

From a judge's standpoint we had a problem with a man in southeast Missouri who was building some dams. The Attorney General, on behalf of the state environmental authorities, claimed

that the dams were dangerous, that they might give way and inundate the whole valley. It was rather unusual for this to be in our court, but it was. I thought to myself: "Well, what if he's right? Am I going to wake up in a couple of days and see a headline that the town of Poplar Bluff was submeeged by a wall of water?" I am simply trying to present the picture. I emphasized last night that when cases get into court, they have to be decided. A decision one way or the other is nevertheless a decision. This was the Attorney General arguing on behalf of the state authorities charged with regulation. He had failed to get satisfaction in a district court and got in our court. Either way, we can get in trouble. In a situation like that, the line of least resistance is to sign the order and say: "let's get this heard as soon as possible." But once again it's going to come down to a judge who doesn't know anything about it except what he's told by people who do. When a judge listens to people on both sides, he or she has to decide who to accept. I can get a very good feel for what you're talking about.

BRUNGS: I don't want to run into one of those "cattlesnakes" anywhere. There is an aspect that we haven't touched yet, namely, education. We've mentioned legislation, regulation, judicial action, but not education. At one of our meetings Rustum Roy remarked that scientists, in terms of their contract, should tithe of their talents. He meant that they would spend 10 percent of their time educating the public on scientific issues. Scientists have not done this very well. Most people don't know what's going on, so, instead of trying to build some kind of public agreement on issues, we continually take them to court. The public, finally, has no say.

Take the case in California on the frost-resistant strawberries. The last people to find out that this was being planned were the people whose property bordered the field where it was to be done. The scientists were amazed that those people were worried. They should not have been amazed. They should have first explained to the public what was involved, what the risk was. They should have brought those people into the process. The fundamental flaw in our system is that, instead of educating, we try to get along on PR or some kind of legal action.

We have some really complex issues in which we can almost pay our expert and get our opinion. These are honest opinions. But until all the facts are laid out for the people whose farms border on the one that's being used as a test side, the scientists are working in a social vacuum. These people ought to be brought together and told what is planned. If they're enlisted, the chances of lawsuits are minimized. We need some kind of public education. We haven't done that very well. Scientists by and large aren't good at that yet. We have to get good at it.

SATTLER: The discussion largely now has referred back to what I would call a legal positivism in which we have a set of decisions, perhaps arbitrarily made which then become law. Further, we have a problem defining, for example, what is abnormal. I still don't know what is abnormal. I've met males who consider themselves diseased because they weren't born female and who want some kind of transposition of this. I am asking about the theological or philosophical foundation for any kind of discussion. At the present moment arbitrary decisions -- I think in terms, for example, of Baby M -- now become a part of the

legal argumentation for the next one. So it seems to me we're going to get ourselves in deeper and deeper.

You mentioned last night, Gwen, about growth hormones in, for example, milk and swine. Recently we have found that swine, treated with certain kinds of antibiotics, grow very beautifully. But the antibiotics have caused some problems that can be handed on to human beings. Where is the norm? What is normal in terms of health? What is normal in terms of what human research ought to go into? Regulation of itself turns things on as well as off. Why do we turn them on and why do we turn them off?

KRIVI: That's an interesting point. The antibiotics and the steroids are also discussed in the same sort of context. Yes, there are clear concerns about the use of those drugs in animal productivity. To my mind, that has been one of the most positive things about having the alternatives of some of these protein drugs, which are potentially as potent, if not more potent, in improving productivity. I would still argue, as I did last night, that improvements in agricultural productivity are critical to the future of mankind. We have now some alternatives to an antibiotic or a steroid which reside in the meat or the milk. This can -- it doesn't always, but it can -- pass on to the human. These protein drugs either don't get in or get in in extremely small quantities. They're proteins and protein is food. Your body digests them. Actually in the case of animal growth hormones, they're not physiologically active in the human, even if you inject them into a human.

SATTLER: Even though the growth enhancers have a mechanism different from the antibiotics, do you anticipate that these growth hormones will not be transferred to the next generation?

KRIVI: No, no. In the case of animal treatment, what is going to happen in the next ten to twenty years will be that these materials will be administered as a drug. They'll be administered exogenously, produced as a drug and injected, if you will, into the animal. The modification of the genome of the animals to produce these proteins is much farther away. I think it will happen but not in the next 20 years.

SATTLER: Granting that theoretically, we have to anticipate this. Are we soon going to have something to transfer to me at age 70 that is going to keep me alive to 150? No, thanks. I want the curtain to come down on my life sometime.

KRIVI: We have to be careful to separate human genetic manipulation from animal and plant genetic manipulation. We have been manipulating the genetics of plants and animals for many, many years. As soon as you domesticate a species, you begin genetically manipulating that species. We can perhaps argue whether we should have done that or not, but we need to be careful to make that separation. If we begin to lump all the issues together into one issue, we will tend to lose sight of the relative concerns, if you will, about the genetic modification, or the use of a genetically engineered drug, in an animal or the release of a genetically engineered plant. There are a certain set of concerns around that are different from those around genetic manipulation of the human. It's important to keep that distinction in mind.

HARMAN: In terms of agriculture and genetic manipulations, we talked about the organisms. In terms of technology, though, we have to look at its social and economic effect. Take the growth hormones. Are people looking at its impact on farming? If we use the growth hormones, we could argue that the large ranches in South America or even the southern part of our country will survive. But will the small farmer up in the northern part of the United States be able to participate in the benefit of the genetic manipulation? What will that do to our economy, our laws and our protection of people?

KRIVI: First, it's certainly true that the face of agriculture in the U.S. and in the world is changing. It's changing without the impact of genetic engineering and genetically engineered drugs. That is an important fact we have to keep in mind. Agriculture is changing. The advent of machinery, chemicals, all those things have shifted away from, if you will, the small farm. But I would argue that the shift occurs between the inefficient and the efficient. That's an important distinction. People talk about driving the small farmer out of business. In many cases it's true that the inefficient is the small. But that is not necessarily true. A product like a growth hormone does not require extensive capital investment for utilization. In the case of cattle, you can buy one dose or ten doses. It costs ten times as much to buy ten doses. In theory, at least, the farmer with one cow could utilize and benefit from this technology in the same way a farmer with ten or a hundred cows could, assuming he is an efficient manager of his farm. That's a big assumption.

So, it becomes a question of increasing efficiency of production and in part this benefits the most efficient producers. If the face of agriculture doesn't change, we won't be able to feed the world, because efficiency of production must increase for us to be able to feed the world in the next 30 to 40 years. A number of studies are looking at the impacts of all the new technologies, not just genetically engineered drugs, on agriculture. The conclusions are, for the most part, that it's going to change. Perhaps that's inevitable.

In the swine industry, with the swine growth hormones, there's been less of a concern along those lines, although presumably the same sorts of things would happen. Another point to be considered in the area of the swine products, is that they not only improve efficiency of production, but they also improve the quality of the product. They make a much leaner meat, and that's certainly beneficial from the point of view of health. These aspects have to be taken into account when one weights risks and benefits.

JUNGKUNTZ: This morning we got confirmation of at least one thing that Don Keefe said last night. There is fear about these things. I felt it right here in the room. What is the origin of that fear? Part of it seems to come from a use of a mechanical paradigm as opposed to a God/human paradigm. That is still below the surface. A part of the fear is that we're entering a new, powerful era and we're frightened of the new. Part of the response is not that demons are out to get us but our ignorance is out to get us. I sensed that, with the exchange of information, some of the fear began to decrease a bit. This is certainly part of what ITEST does well.

We have here a microcosm of what is necessary in our whole culture, in our whole society. How do we get the information out? Maybe believers have the advantage since we're not going to be quite so frightened by the ultimate of death. We know God's stronger than death, so that threat has been at least partly met. Spouse, fame, goods, let these all be gone! God is still with us! That's one thing that the community of Christ and the biblical God can present to those within our society who are so badly frightened.

BRUNGS: As we end this session, let me point out that a genetic engineer was mentioned in the Bible. Remember Jacob tending Laban's sheep and putting sticks of wood in the trough to produce animals that would be favorable to him and not so favorable to Laban.

One thing we're going to have to keep in mind as we proceed is that our society is basically scientifically illiterate. That explains a lot of the fear. More and more, our lives seem to be in the hands of the technicians and the experts. We feel that we are losing the kinds of control we at least thought we had. We yearn for the good old days that never were. We have to keep in mind the matrix in which these things are occurring, namely, a society that basically doesn't understand them.

Dr. David Byers, Paul D. Doolan, M.D. (background)
Rev. H. Vernon Sattler, C. Ss.R.

CHANDLER: I'd like to refer to what I would view as a high level of optimism in Gwen Krivi's and Roman Saliwanchik's perception of how these things are going. I've worked in developing federal regulations for some years and I've observed a very large number of cases where large firms have, in the interest of economic gains, done things which have caused substantial harm to people. I'm skeptical about the level of optimism. For example, I can think of articles on DDT which put it in the same general category as God, mother and country, as a miracle for the production of agriculture goods. There has to be a downside to these things. We ought to be concerned about where these downsides might sneak up on us.

SALIWANCHIK: What scientists and industry do at any given time accords with the best scientific knowledge at that time. That doesn't mean that that knowledge will not change. We have to continue monitoring these various systems that we now think are feasible and safe, because the biological system changes. Take, for example, the antibiotic resistance organisms. We've used antibiotics in animal feeds for at least 20 years. For a good portion of that time there was no discernible problem. Subsequently we discovered that there were some organisms, resistant primarily to penicillin, that were transferred to slaughter animals. Human beings then ate the meat. These genetic factors were transmitted to our microflora and, therefore, developed some resistance to certain antibiotics. This realization has been gradually working into science. It doesn't happen overnight.

CHANDLER: I'm concerned about the basis of the decision. You're saying it's based on the best science. Is it based on the best science or is it based on the best economics for that firm?

SALIWANCHIK: Before we can market anything in our society, we have to have government approval. We need it for antibiotics in feed, in medicinal use and in animal use. (CHANDLER: I'm talking about all sorts of products.) You're talking about things that affect the human being fairly directly. I'm aware of them. In order to get regulatory approval, for these products, we have to submit sufficient scientific facts based on the best science at that time. The data submitted today may be judged differently ten years from now. We don't have the scientific capability to go that far ahead. We can judge the safety of these products for the human being by the best scientific instruments we have now. Then we have to monitor these systems as they are being used in society.

We are beginning to realize that many of the chemical pesticides that have been used in our agricultural system for the last 20 years have gotten into the water systems and polluted them. We didn't appreciate the problem when this was done. We proceeded with the best understanding we had. You might say we should have known. We can't really know for sure anything in science. We can only do our best thinking at the time and then watch it as it proceeds -- this is true whether it's medicine, space, any other area of science. There's no way to be absolutely safe in this world. If we expect to have enough food to eat, if we like to have a car to drive, we have to accept some risk.

CHANDLER: The question is not risk freeness. Most thinking people are willing to accept risk in their daily lives. It's inherent in birth and death. So we live with risks that

come at us from many different directions. The question I am posing is the basis for the decision. Is it based on economics primarily? Is it based on public values, or is it based on individual economic gain? That' a very difficult question to answer.

SALIWANCHIK: It is, but if the public doesn't need something, it's not going to be marketed to make money. Unless someone purchases a product, you're not going to realize any financial gain from that product.

Many scientists are working, for example, on AIDS, because they not only want to cure the problem, but because they want to make money. They have to make money to support their work. Unless the public wants something, the scientists will not work on it. If the public needs something, scientists will work on it and hope to profit from it.

We have provision in the law, called the orphan drug law. If certain companies will work on certain drugs that are needed but are not very profitable the government will give them a certain preferred position in that area. This is not the general situation, however. Unless an industry or a pharmaceutical manufacturer can see that its research will result in some commercial product, it can't afford to put people working on that research.

SATTLER: There is still a problem. The advertising agencies are creating the needs rather than the other way around. The happiness industry has sold all these drugs which we now insist we ought to avoid. Why ought we say no to euphoria? The best way to make money right now is to sell drugs. The need is being created by clever advertising.

SALIWANCHIK: I realize the role of the advertiser. The public, however, doesn't have to accept what the advertiser says.

KLAUS: We should distinguish between wants and needs. A want is created by a marketing strategy. Eventually today's want becomes tomorrow's need, i.e., the colored television. Suddenly it's a sign of your status.

DUNN: Yesterday morning I was called out of class to talk to a young student who had fainted in class. The nurse was off campus at the time. In talking with the student I found out that she was a borderline anorexic. I asked her how she got started in this and she said that she had seen an advertisement for certain types of pills. She didn't want to be fat. She was 5'3" and weighed 130 pounds. Now she's down to about 100. I am in agreement with the statement that it's not necessarily need that starts it. Often, the advertising initiates the need -- they have to have it now because of this.

FITZGERALD: Advertisers educate people in a sense to purchase what they want them to purchase. We complain about this because we feel they're educating people to values that are not beneficial. This throws the challenge back at us to do as good a job or better in education. We don't get the message across because we don't have the slick campaigns and we don't know all the right buttons to push.

I was talking to Gwen Krivi during the break about Jeremy Rifkin who is a tremendous communicator. I don't agree with a lot of his content. But there's no question about his ability to communicate. All the experts in the world could disagree with him, but if they can't communicate the message, it doesn't make any difference.

KLAUS: We should distinguish between levels of desire and what advertising does in terms of getting you to buy a product. At a very infantile level, it's the incorporation of the oral. It's always easier to start at that very low level. But maturity, where the strength is in holding back rather than grabbing, is much more difficult to achieve. I think maybe our frustration -- thank you for focusing it -- is that people keep getting called back to being babies psychologically.

BLACKMAR: There is a problem that doesn't relate to advertising. Cholesterol has become a household word and it is supposed to be dangerous. Various pharmaceutical manufacturers attempted to find drugs that would relieve problems with cholesterol. We assume that's a desirable end. One company put a product on the market and it was rather widely prescribed and sold. Then reports began to come in about an abnormal incidence of cataracts. As a result the company had lots of lawsuits. There's some question about how many reports the company got before alerting the medical profession. There is an example of a product that was made to fulfill a need and then something went wrong with it. I'm not prepared to say whether there was inadequate testing or whether it was just one of those things.

The law says they're liable for an unreasonably dangerous product, even though they didn't know then that it was unreasonably dangerous. I think there are certain perceived needs and researchers and manufacturers will respond to them. One danger is that products will be released and used, which are not thoroughly tested. Then sometimes there are surprises. That's a part of the problem. The more exotic the technology is, I would assume, the greater the risk of something untoward, maybe not in a large proportion of the cases but in enough to cause substantial problems for the manufacturer.

KRIVI: One good example of this in the area of human drugs is the human growth hormone situation. In the classic technology, human growth hormone was isolated from pituitaries and administered to children with growth deficiencies. We have discovered in the past couple of years that some of the human growth hormone was contaminated with a virus that, after a long period of time, caused death in a limited number of individuals. This was something that could not have been perceived when these individuals were treated. But it caused the drug to be withdrawn from the market. Fortunately Genentech soon came along with a recombinant DNA substitute, so that only a few children were denied actually being treated with the drug. Does the fact that that happened mean that the decision to treat children initially with this drug when it was first available was wrong? Would you have denied all the benefit because of this risk?

SALIWANCHIK: Let me emphasize that recombinant DNA technology has saved the day on this drug. Because the previous drug was extracted from human beings, it, therefore, contained an undesirable element. In a recombinant DNA product, it is pure. There's no

possibility of it containing another element. We're talking about a vaccine that will not be an attenuated microorganism, an attenuated virus.

BRUNGS: There is a problem of trust involved in this. The rewards or the possibility of rewards -- whether they're prizes or patents or whatever -- are growing significantly. More and more we hear about fudging data and plagiarism. Somebody, recently created about a half a dozen papers out of whole cloth. No experiments had been done, and yet they had been written up, refereed and published. That, combined with the human tendency toward greed, is an element in this mix.

I'd like to ask Mike Alavanja whether our knowledge of epidemiology is commensurate with our ability to measure. Do we actually know in most cases what a part per trillion will do to somebody? There was a big scare on eating catfish out of one of our Missouri rivers because the fish contained 20 parts per trillion in chlordane. Do we know what 20 parts per trillion of chlordane will do to a human being?

ALAVANJA: I'm the epidemiologist here. I don't think that our knowledge is commensurate. In epidemiology you need a population to study. It has to have many attributes in order to get meaningful results. The identification of such populations is most often difficult and sometimes impossible. When you're looking for effects from small exposures, you typically need tremendously large populations to make any meaningful conclusion. Sometimes the opportunity is simply not there. It's a public health issue, but the question can't be answered scientifically because you simply don't have enough of an exposure to draw any conclusions. Scientifically that's one of the issues involved.

BRUNGS: We never start anything in our society at the level of an issue. It always begins as a crisis and escalates quickly to a MEOW -- the "moral equivalent of war." We rarely know what these tiny exposures -- to me a part per trillion is pretty tiny -- will do but everybody gets up in arms. I could be wrong on this, but I don't think there has been any human death connected with dioxin. Has there? Am I right in saying that?

ALAVANJA: It seems so. What you very often get are associations that would lend support to a fear. For example, millions of people live close to power lines. What are the potential effect of electromagnetic waves? Does it cause leukemia or brain tumors? There's enough data to suggest that it's possible. We see associations, but that's a long way from being causal. A scientist would simply state the fact of these observations, being very careful to say that this does not prove a causal association. But what is transmitted in presenting the data that way is not the scientific discussion and conclusion, but the fear. For example, my sister-in-law called me six months ago saying that "We're looking at a new house. There's a power line in the back. I know that this causes cancer so I'll not go through with it." It's difficult to explain this type of quantifying risk and trying to put the whole thing in perspective. She didn't buy the house.

BRUNGS: Dr. Anderson, would you like to start up on issues in human genetics?

FITZGERALD: May I break in? Yesterday Dr. Anderson talked about being conservative about the genetic manipulation of human beings. He touched on the enhancement or eugenic application. Could you, Dr. Anderson, explicate the concept of human nature implicit in the decisions you make about your research? Whether you're coming at it from a static or dynamic point of view of human nature has serious ramifications upon how you do your research, and what you consider to be justified.

ANDERSON: Roman was talking about industrial scientists. They have little to do with the rather large group of scientists that I mix with. Those of us at universities, research institutions, and NIH have nothing to do with products or with the profit motive in the financial sense. In the sense of prizes, awards and honors, we all have egos and ambitions.

I've been unusual in that I've struggled publicly with the kind of research that I do. I've written essays and so on. Recently I wrote one in which I tried to answer this particular question: at the deepest level, what's disturbing about this? I sent it to several people. The theologians and ethicists who returned it were delighted and are quoting from it. But I didn't hear back from a single scientist or physician. So I called several of them and asked them to read it and give me their feelings. Essentially what I got back from most people was: As a scientist, you shouldn't be bringing up these philosophical problems. It's disturbing. If you publish this, people may think this represents the scientific community. This is true because in gene therapy my lab is the leading lab. So it seemed to them that raising questions about human nature and how we may interfere with it could give the whole field a bad name. I set the essay back on the shelf for six months before I reworked it to take into account their feelings, so they could at least read it and think about it. It was clear that they wouldn't read it as initially written. I sent it back out and got a number of comments that to the effect that I had improved it. But they're still disturbed by it. Some suggested publishing it in an ethical journal but not in Science, Nature or The New England Journal of Medicine. That's as far as I'm going to be able to push it. I haven't answered your question yet, but that's the background.

What goes into a researcher's thinking about the kind of research to be done? One element is the opportunities one has in the early years -- where you can work, who's going to fund you, and so on. That was valid for me for probably the first ten years. For the last 10-15 years, when I was successful enough to go where I wanted and do what I wanted, the question of the kind of research I wanted to do became relevant. I wanted to do work that would relieve human suffering.

I was trained as a pediatrician. When an infant was suffering and nearly dying, the parents would say: "What can you do?" The only answer was, "There's nothing we can do, but we're working on it. We are trying to come up with a solution." I remember the exact minute when I decided that I was going to be one of the people who was doing it. I have oriented my research around that. It was clear to me that the ability to correct genetic defects would be the most beneficial. It was also clear that, as soon as you start being able to correct genetic defects, you can start altering the human genome. That's why from 1970 I've written and talked on it. No one cared until the last few years. Now everybody's interested.

I still didn't answer your question: what's my view of human nature? It is probably very

similar to most people in the room. I'm a Christian. I believe that, besides our physical and mental aspects, there are very profound spiritual aspects to us. We have no idea how that spiritual side is supported by our genes, our neurons and so on. But if there is a correlation -- and there has to be a correlation simply in terms of how we think --then our genes are involved in some way. We're talking about an enormous black box. It is, therefore, difficult to develop a technology which will clearly have the power to do enormous good and the power to do enormous harm. How do you in good conscience walk that path? Even more than that, how do you lead the way down that path and make the decisions as to what's going to be done?

JUNGKUNTZ: We know that genes affect the mind. But isn't it true that the mind has been affecting human genes? Isn't it true that in some ways this and other discussions are going to affect human genes? This doesn't seem to be a one way street (genes affecting mind). One of the things we're realizing is that our human mind is separate from our gene and our body in some amazing fashion. We realize that we have some say over this. We thought only God had this say, and now we're finding that we are in the image of God more than we realized. Rather than that being so awful, it's awesome. Nonetheless it is part of our responsibility. Rather than trying to run away from this responsibility of being in God's image, we must realize that part of what we're dealing with is a recognition of that power. Our mind and our values and our spirit can begin to shape our genes. It's not either/or. It's at both ends and we have to cope with that.

ANDERSON: That's exactly right. Realization of that possibility is basically what I've been dealing with for 20 years. Ten years ago it became clear that this was actually going to happen in our lifetime. It was clear 20 years ago that it was going to happen but people thought it was so Buck Rogers that it wasn't worth thinking about.

BRUNGS: We had our first conference on it 15 years ago in 1972 in St. Louis. It was clear to us then, for instance, that in vitro fertilization for humans was not far off.

We are made to alter the stuff of the planet. We have opposing thumbs and strong buttocks so that we can walk upright to free our hands. Every gene in our body seems beautifully directed to affect nature. The question finally comes down to what we understand ourselves to be and what do we understand we shall be. Scripture opens in a Garden but ends in a City. We could toy with the thought that some kind of divine "urbanization project" is going on. Christianity, I think, is the only major religion that starts in a city. It is an urban, not a desert, experience. Why aren't we out in the streets? The Spirit immediately sent the apostles into the streets. These issues are current in the streets of the city. We have a mandate from God, not only to subdue and conquer the world, but to subdue and conquer ourselves as part of that world. But we cannot forget that, no matter how magnificent the wine is, it's going to pick up some flavor from its container. We're sinful containers. That must give us pause. We have to worry about more than doing harm through ignorance. We have to worry about greed, sloth and other results from sin. We are carrying this lovely new wine in a sinful vessel.

O'ROURKE: Recently I've read statements from Australia on genetic research and the identification of when human life begins. Some of the citations in those documents

indicate that there is research going on today uniting human and animal gametes and that the embryo, if we can call it that, is kept alive for a period of time to see what happens. Is there any information on that?

ANDERSON: Such mixing has been a classic concern. I went up to Congress around 1982, when there was a big concern about recombinant DNA and about what was going to happen. The only question from one congressman was: "Are we going to be mating people and gorillas?" That's what his constituents wanted to know. If that wasn't going to happen, he wasn't quite so worried. There are species barriers that make a successful attempt to cross species impossible, as far as we know. Rumors of crossing animals and humans in terms of fertilization are rife. They're simply not based on fact.

O'ROURKE: Are you aware of any research going on with this purpose in mind?

ANDERSON: No, I'm not aware of it. At the reproductive biology meetings that I've attended, and at the various ethical and legal discussions at NIH, that has never even come up. No ethical scientist is going to do that. There is certainly the issue of a desire to know and of all knowledge being useful, and so on. But the only purpose of attempting to cross different species is to answer the question of how far the species barriers extend. That's been known for years. You can cross a musculus and a mus carolina, a laboratory mouse and a wild mouse. But going much beyond subspecies simply isn't possible.

BRUNGS: I saw an Australian bioethics newsletter which stated that some unidentified team had implanted a human embryo in a sheep womb. Are you aware of experimentation like that?

ANDERSON: I can't imagine anybody doing it. It would certainly be illegal in this country. Any manipulation that involves the implantation of a human embryo comes under the fetal research regulations and is illegal. No biotech company or ethical pharmaceutical company would do such a thing because of the negative publicity that would result from it. Since it's technically possible, I can't say it hasn't been done. There's no way of knowing. But such an experiment, if mentioned on the floor of a major medical or scientific meeting, would cause an uproar.

KRIVI: I would argue even more strongly. You said no biotech firm, no drug firm, would do this because of the negative publicity. I would argue that they wouldn't do it because of the ethics of their scientists as well. This is not an acceptable procedure. I have no knowledge personally of any such type of experimentation.

BLACKMAR: Don't we have any of these mad scientists that we used to read about in the comic books?

ANDERSON: Mad scientists certainly still exist. I know some. But, that's not the way research is done any more. It takes a lot of money and a lot of technical expertise to be able to do anything like, say, in vitro fertilization. One critical thing is keeping

everything sterile. Even though one can work out on a bench sterilely, it's usually done in a hood. It takes many thousands of dollars to do these things.

BLACKMAR: So the idea of Dr. Jekyll or Frankenstein is still fiction?

ANDERSON: It's fiction. As a Davies scholar last fall, I spent several days with a group of research students. They were reading Frankenstein, and they gave me a copy which I read on the way home. Frankenstein is an extraordinary book, very different from the movie. It's an extraordinarily moral story. Dr. Frankenstein was so repulsed by what he had done that he withdrew. The monster started off loving mankind and then, because he was rejected, came to hate mankind. It is a theological story, not a horror story. But the answer to your question is no. Research is so expensive that the mad scientist is quickly recognized as that.

BLACKMAR: What are you worried about then?

ANDERSON: I'm worried about the perfectly innocent attempt to use these techniques to do what on first glance would be a good idea. And I'll use as an example a meeting that Fr. Brungs and I attended three or four years ago. It was an international group of Catholic theologians. I thought of myself as a liberal until I realized I was more conservative than the so-called conservatives. So there I was, a "liberal scientist," going in with all these "conservative theologians." I wondered what would happen, because I was used to dealing with theologians individually, not collectively. I found myself arguing with the group, because they initially thought it was a great idea to put an altruism gene into people. I was the one saying "no, that's a terrible thing to do, because you don't know what you're doing."

If the time ever comes when it's possible to know that a given gene does something and be able to put it in the right place, then perhaps we could start thinking about its merits. But now to try to put a gene, like a growth hormone gene, into a normal child in hopes of making it bigger so he or she will do better in society, has many medical, scientific, ethical and moral problems. That's what I'm worried about; I'm not worried about a Frankenstein. I'm worried that people, innocently thinking that they're doing something good, will start going down a path which has irreversible ramifications.

SATTLER: It seems to me that science, as pure research and even as applied, depends upon an independent ethics. Science cannot tell you what ought to be done. It only can tell you what is, or what might happen. Are we able to arrive at an ethics of acting or not acting, or are we only arriving at an ethics of manipulation? May I manipulate myself as a person arbitrarily? But aside from the consequences, is there anything inviable about me?

ANDERSON: Let's use a specific example rather than a general position, because, as soon as you use the word manipulate, you're using an emotive word. You've already influenced the discussion. Let's do it precisely. What if a neuropeptide is isolated and cloned in some laboratory? Let's say that it's discovered that if you put first a neurohormone, but then the gene, into a chimpanzee that that chimpanzee has an enormously expanded memory. Let's postulate that it's given to 25 chimpanzees and baboons as well. Further, in every case there

are no harmful effects and their memory capacity and their "intelligence," is greatly increased. Would you want that gene? Or if not you, would you want your child to have it?

SATTLER: I would have to ask an ethical question about the goodness of indefinite memory recall. I would have to find out if it is the nature of the human being to have not only memory but recall. I don't know the answer, but that's the kind of question I'd want to ask.

ANDERSON: But one could keep going with a sort of an infinite number of examples. If you meet each one with a philosophical question, as you pointed out last night, that's a decision. If everytime I say, "Here's a gene. Do you want it?" and you say, "I've got to think about it," that's a decision. You're saying: "no, I don't." Then it's a matter of going back and asking why are you saying, "no, I don't."

SATTLER: It's the why that I'm concerned about.

KEEFE: You said hypothetically that memory enhancement has no harmful effects. How could one make such an hypothesis? This would be inducing immediate insanity.

ANDERSON: That's my argument, the whole reason why I don't think enhancement genetic engineering should be done. But we are in a pluralistic, a permissive, freedom-loving society. As I have said, we might not want to have a surrogate child, we might not want to fly over the Snake River gorge in a rocket, but we will let a mature adult do so so long as no one else is being hurt.

If you take a growth hormone gene and give it to a thousand infants who would have had growth deficiency and they all grow up normally, with no harmful effect, and if you put the same growth hormone into 500 monkeys and there's never a problem, then you'd have to say the chances of serious harm in putting a growth hormone gene into a normal infant are slim. Then if you have parents who are both 4 feet tall, we might help their children grow to 4'6". This is still within normal range. But if people feel they would like their child to be 6' tall, is it inappropriate to give that child a growth hormone gene during infancy? Having shown that all the children who have a defective gene are perfectly normal and that 500 monkeys are normal, is that bad?

BLACKMAR: There has been quite a bit of endocrine therapy with people who don't grow as they are expected to, or who sometimes grow more than they're expected to. I've never known that anybody thought of that as being an ethical problem.

ANDERSON: That isn't. But what is happening, now that growth hormones are available, is that parents are obtaining it on the black market and giving it to their normal children, in order for them to grow more. We don't know what's going to happen to a normal child who has an excess growth hormone in terms of the reflex balance.

BLACKMAR: But of course, you're suggesting that there are limitations on knowledge in many of these techniques that....

ANDERSON: I'm suggesting that there is an enormous limitation on knowledge, on every technique having to do with medicine. We do not understand the human body. We, as physicians, don't know what we're doing when we practice medicine. We do things because they work. We don't understand why they work. We're talking about an enormous black box and we've scraped open one little end. We can see a few things and we can get a few things to work. We can put a growth gene into an infant and say what we think will happen. We know that the infant will grow more than he or she would have. But we don't know anything else that's going to happen. That's what frightens me. My argument for years has been that we should not do it until we understand what we're doing. It will be a long time before we understand what we're doing. Therefore, genetic engineering should not be used, except for the treatment of serious genetic disease. Period!

BLACKMAR: That's not a problem unique to genetic engineering. Isn't it a question in the use of conservative therapy or of taking chances? Aren't there many other areas where you must make that kind of a decision?

ANDERSON: There is a difference with genetic engineering. There you have the potential for affecting all future generations. That's where it's unique.

KLAUS: It seems to me that the necessary distinction is in the purpose of medicine. Is medicine the correcting back to normalcy, or is it the altering of the essential human? Is it for the alteration of the normal for the sake of another goal? We're no longer in the hypothetical area. That's a distinction that we need.

FITZGERALD: This gets back again to my original question to Dr. Anderson. What is normal? You can say you have to make these decisions based on what is normal. But what is normal hasn't been necessarily determined yet.

ANDERSON: That's the big gray area. If a child is going to be 2 feet tall, is that abnormal? At 2 feet, we'd say yes. Three feet? What about 4 feet? What about 4 feet 6 inches? What about 5 feet?

FITZGERALD: This is where your boundaries come in.

ANDERSON: That's right. And that is where the concern is. I'm not worried about the gross case of a Frankenstein situation, but about saying: "well, this child who would only be 3 feet tall can be helped to be, well, 4 feet tall, if the parents really want it." Then it goes to 4'6". But, if we can do it with growth hormones, then we might start doing it with other kinds of genes. So a line is never drawn.

KLAUS: Well, you're also speaking about shifting the norm. For instance, I'm told that George Washington, at 6 feet tall, was a giant among his peers where a man 6 feet tall is now normal. We need consensus in shifting that sort of norm.

ALAVANJA: We're at a stage where we might make an analogy to adolescence.

In adolescence we have a growth spurt where we have growing physical attributes, with the power to do things, but without the emotional and mental maturity, to really cope with it. That's part of the awkwardness of adolescence. That's an apt analogy to where we are now with genetic engineering.

Consider some of the consequences. Let's consider cancer as one of the potential consequences. We might talk about a latency period of 20 to 30 years. In this whole process something might have happened 30 years ago, and we can't predict in almost any instance, even two years before the clinical manifestation, that that is going to develop. We can't predict the outcomes that are going to take place in 30 years. That's where we are with some of these consequences. We can't say that if we do this it's going to result in a definable consequence. We don't have the knowledge to assess the potential consequences.

ANDERSON: Your point is quite valid. In terms of gene therapy the analogy I like to use is this. Your television set stops working and you open the back of it, assuming you have a certain amount of comfort with electronic stuff. You see a broken wire. It is not unreasonable to say that, if I replace that broken wire, I have a chance of improving the TV set. But let's say it's working ok, but your neighbor's set has a clearer picture and a sharper color. So, you take the back off yours and say: "I want to improve this and I'm going to put a wire from here to here and see if that improves it." The chances of that helping are slim; the chances of that hurting are high. That's the way I view putting a gene into the human genome. In the case of a genetic defect, you know there's a defective gene and you're going to replace the function of that gene. But trying to do anything else may do a lot of damage.

KEEFE: May I pursue that a moment. You're defining normalcy in terms of the presence or absence of a gene defect.

ANDERSON: Trying to define normalcy is difficult. Therefore, I've only defined a genetic defect and my definition of a serious genetic defect is one which produces significant suffering and premature death.

KEEFE: Simply by inspecting the gene, simply by looking at the structure of the gene, you cannot determine a priori that this is a defective gene.

ANDERSON: Actually for genes which are well studied, yes, you can. That is how far things have come.

KEEFE: Might there be some possible empirical discovery of the meaning of normalcy in this or that category down the road some distance obviously? We'll get into an enormously complex area. If one can discover that there is what might be described as a simple mechanical defect in the gene or a chemical defect in the gene then clearly this is abnormal.

ANDERSON: That's precisely right. That's the definition that I'm using. For the ADA patient, the gene would be cloned from that patient, sequenced, and determined that there is a base change which we know, which we can show in an in vitro system produces a defective protein. So there's an absolute mechanical linkage. That's the exact definition.

In that case, I think it is not only morally acceptable, it is morally irresponsible not to treat. Cloning a gene, showing its defect can produce a defective protein, and that result is death for a child. Those are the criteria that go into saying this is an acceptable candidate for manipulating the genome. And I use manipulate now in that sense to pull the whole emotional aspect into it.

JUNGKUNTZ: I would like you to interact with a theme in Don Keefe's paper. Part of the human is our capacity for force and might. One of our anxieties, as a Christian community, is that things may be done badly. Is there a point where we as Christians may get our point of view of our humanity across? It is easy enough to commit ourselves to persuasion, to the law and the courts and then despair about being able to persuade anybody. Is there anything we can do to prevent situations which as Christians we see as detrimental to our humanness?

ANDERSON: Yes, there is a mechanism for doing it. Because of the perception of legitimate concern about this kind of research and therapy, the Human Gene Therapy Subcommittee has been set up at the national level. It is a group composed of scientists, clinical geneticists, theologians, ethicists and public policy people. There are about 15 people altogether. That committee was set up under the aegis of the NIH Recombinant DNA Committee, the group which set the guidelines for recombinant DNA and which has a very highly respected reputation worldwide.

One of the requirements is that any human gene experiment which involves federal funding -- and in one way or another, practically every lab does have federal funding for it -- has to get approval not only from the local institutional review board and institutional biosafety committee but from the Human Gene Therapy Subcommittee. Those are open public meetings. The first thing that the Human Gene Therapy Subcommittee did was to put together a 20 page "Points to Consider," which are questions asked of any investigator who's going to submit a clinical protocol. He or she responds to those questions, which have to do with long term implications as well as all these various aspects.

I was originally on that subcommittee, and was in large part responsible for drafting those "Points to Consider." I didn't realize then that my lab would be the first to respond. Having made my bed, I have to lie in it. At the April 24th public meeting, we're going to be turning in to the Subcommittee a 120 page document answering those 20 pages of questions. This isn't even a proposal. It is simply a pre-clinical data document which presents an answer to all the issues, but doesn't ask for any approval. This is simply for educational purposes. The time to express your feelings will be when that document becomes public in two weeks. That is the time not only for Christians but for everybody to make their feelings very clear either in person, in writing or by representatives, because that will all be publicly on the record.

We have worked with a number of theologians. But I don't think that people in this country think that one or two people represent everybody. I would strongly recommend that, when that document is available and is under review over a period of several months, those of you who are interested get a copy of it, look at it, and express your concerns as part of the public record.

BLACKMAR: What kind of research are you doing?

ANDERSON: That's summarized in my essay. The essay treats it a little more as an example of what's being done in general, but it's really what our lab is doing. I have here an early draft of the text part. This is 74 pages. The bold face, if you can see it, is the question that's asked and here's the answer to it. The questions ask what the initial disease you're going to look at is and why it is the initial disease; how we're going to go about it; and then all the various safety issues -- what can go wrong, how can it go wrong, how can you measure it, how good is the assay to measure it, what can go wrong with the assay, what can go wrong with the things that you're doing as backups. That's why it's so long. It's a simple question. What's the disease? What are you going to do? What are the chances of it working? What can go wrong? Those are the questions and these are the answers.

But these pages are not the fundamental question. The fundamental question is what we're asking right now. Should it be done at all? If so, what restrictions should be placed on it? My thoughts are the ones in my essay for this meeting, namely, this kind of research should only be specifically approved -- I'm talking about research on a patient -- only when there is a mechanical problem seen in a specific gene and when we have shown in a monkey that we can take a normal copy of that gene, put it in, and correct that problem. It should be approved only under those circumstances and none other. The only way that's going to stay on that track is for concerned people to make clear that the public accepts that, but that they're not going to accept saying: "Well, we put this gene in and it helped these. Why not put it into a normal and see if it might help them."

JUNGKUNTZ: I heard Roman and Gwen saying that our legal system is still good enough to handle this. Don Keefe, however, questioned the capacity of our legal system in terms of the assumptive world in which it operates.

ANDERSON: I used to be very negative on the legal system. But, while I was at Harvard, I went to the Harvard Law School and audited a course on medical/legal problems. I came to realize that, at its best, the legal system is superb, and it does just what Judge Blackmar said yesterday -- it makes decisions. A good conscientious, compassionate judge or group of judges will think out the issue to the extent that they can and make a decision which becomes the basis for further thinking.

I'm reasonably comfortable with the legal system when it has enough lead time to examine issues. Then things can be looked at in a non-crisis atmosphere. It's tough if the first time the judge hears of surrogate motherhood is when the case is in front of him or her. But here we have a situation where a number of attorneys have been involved in thinking and writing about the legal issues. If this ends up in court at some point, there will be a fair amount of knowledge to go on. I doubt if it will be litigated, because there's been enough time to lay out the thinking ahead of time.

We have intentionally done our research in a fish bowl. We have a live-in reporter who's writing a book about it. We had a live-in law student. Our meetings are open to anybody who

wants to come. This month's issue of Readers Digest has an article about us. It's public knowledge. There isn't anything secret about it. This text is written for the non-scientist, although it's not easy reading. Attached to it will be our publications, and the monthly papers in press now, which are all in technical jargon. But it's written for people who want to know the exact details of what might happen to their child. Included is a 12 page informed consent document which defines every single step that would happen to the child, if this is what's going to take place.

SALIWANCHIK: Is this going to be published in the Federal Register?

ANDERSON: I don't know how they're going to do it. It will be available to the public as a public document. I can refer you to William Gartland, Office of Recombinant DNA, 12777 Parklawn, Rockville, Md., 20852. Whether it's going to be in the Federal Register or whether it's going to be available as a mimeographed or xeroxed copies, I don't know. But it will be publicly available as of April 24.

MOREY: What's happening outside this country? What kind of pressures will there be if people, doing this research without the same kind of moral guidelines, social guidelines if you will, make some "breakthroughs." What kind of pressures would that put on us to reexamine standards? What's the potential for that at this time?

ANDERSON: The pressure is enormous. That's a critical question. The only people who are held to the Human Gene Therapy Subcommittee "Points to Consider" are those receiving federal funding. That means this country and the larger institutions around the world. No one else is required to do so. There have been several situations -- the most recent was in Canada lst summer where an investigator using our vector, presented for other purposes, thought that it would be a good idea -- and it is a good idea from a scientific point of view -- to put a DNA sequence into bone marrow cells of a patient with leukemia. The patient's bone marrow had been taken out, purged of leukemic cells, and put back in. They wanted to tag those cells with a gene to know if the patient relapsed, and whether he relapsed with purged marrow or his own endogenous marrow that you hadn't completely killed. From a medical point of view, from a scientific point of view, it's a nice experiment. It is, however, the kind of crossing the boundary that says: "We'll just put the DNA sequences here because we want to do this," and you don't know what's going to happen off to the side. I called the people involved and explained the potential public ramifications. They said: "We don't want to cause problems so we won't do that."

The only force that we have is the force of being in the lead. The same is true with the recombinant DNA. The United States scientists were scientifically in the lead and, therefore, supplied materials to the rest of the world. First at Asilomar and then with the recombinant DNA guidelines, they set the guidelines which then were adopted by essentially every other country as legal requirements. That's the major argument that I, and others, used in dealing with Congress when they wanted to ban genetic engineering research, namely, if you ban it in this country, it's going to take place unregulated, uncontrolled in the rest of the world. That will come back on us because the gene pool is worldwide. If we stay in the lead scientifically,

we will cooperate with the rest of the world. (We do this.) Then we will establish the regulatory and ethical guidelines. With moral persuasion, as well as the persuasion of supplying the information which other countries are going to use, we can attempt to get everyone to agree to the guidelines that this country establishes. That was the argument. So far that has happened.

MOREY: Isn't this the mad scientist temptation that everybody's worried about? In other words, you say we stay in the lead. We had the same situation with nuclear research. We stayed out in the lead and we pose an ever greater threat for somebody who uses it inappropriately. But in the case of genetic engineering that analogy may not be valid. Other people may explore down these roads that have been arbitrarily blocked in this country. (ANDERSON: That's exactly right.) What is the lead? Supposing they start down these roads from which you're blocked. I'm not suggesting that this is appropriate. But if they go down that road, are they in the lead then?

ANDERSON: That is a very good question, and the answer is if they go down the road of enhancement engineering and it works well and there are no problems, they will be in the lead. That is a decision which I made long ago. Whether there is a law or not, I will not do it.

MOREY: Being scientifically in the lead is not a very good expression of discipline in this field, is it?

ANDERSON: At present it is. Let's say they do the experiments and nothing happens or that the enhancement attempts produce defective babies. Then, that isn't the lead at all. That is basically failure. That is the kind of moral decision that came up first with the question about human nature and what research you do. If doing enhancement engineering is required to maintain the scientific lead, I am quite willing to give up the lead. Whether other people will go along, I don't know. That is a moral decision I made 20 years ago, because even then it was an issue.

A much more critical moral dilemma for me comes in the ADA deficiency work. This is a disease that kills infants in the first year of life. We know that we have a potential for being able to cure them, but we're going to go through all these public hearings and so on which will probably take a year. Let's say that, using the very system that we've developed, somebody in Germany or Japan, says: "We're just going to do it." Now I have a real moral dilemma. I have publicly said, and I'll say it again, if it happens that it's going to be done anyway and it's going to be done with our system, then I'm going to do it. I'm going to ask for exemptions from the procedural route. Being locked into a sequence and having to sit back and watch someone else use a system that I've spent five years developing would be the worst moral dilemma that I would have. I would go ahead on the grounds that I can use my system better than someone who simply tries to copy it.

MOREY: That sounds to me like it's more important to be first than it is to uphold what you think is the proper moral standard.

are seen as unforceable insofar as they are inconsistent with public policy.

That has to be a free option. It can't be imposed because, by their nature, these associations are freely assumed. That does not mean arbitrarily or randomly. It means freely, intelligently, significantly, responsibly.

This kind of exercise of freedom changes the very meaning of the world. This is the kind of thing which Orwell discusses in Animal Farm. When you change the meaning of words such as responsibility and freedom and authority, you do so in contexts which have enormous impacts on the entire human associative complex. As soon as we decide that a child can be a subject of commerce, then we have "fungible man" who can be sold by the unit as coal, gasoline, sugar, lumber, or whatever else. This is what I mean when I use the word "manipulation." It has to do with the treatment of something as a thing.

When a child or any other human being is the object of a contractual disposition, then he or she is precisely being manipulated. This I think, is contrary to public policy. There is however, a great deal of law on the books now that flatly disagrees with that. The notion of privacy that has been growing in American law since the beginning of the century does not suppose privacy to refer to relationships between individuals of a marital sort. Rather it refers to the lonely individual whose privacy is his right to remain aloof, uncommitted. Thus, to enter into such contractual arrangements as may be wished is entirely without reference to any prior obligations or any inherent obligations. The very notion of having inherent obligations is thought to be in some sense an inhibition, a reduction, an imposition upon one's freedom, one's liberty. But this is the liberty of the loose cannon. It's meaningless, it seems to me.

BLACKMAR: The courts have a problem because there are children who are produced by people who have been very loose with their family obligations, with any sense of responsibility. And yet here is the child and we have to decide what is to be done with him or her. That is not an easy decision. At one time it was assumed that an illegitimate child belonged solely to the mother and that the father had no rights. Sometimes the mother could catch him and could make him pay some support. Now we have recognized that under some circumstances a father has a right in an illegitimate child and under some circumstances the child may be able to inherit from the father. The point is we do have to give some attention to the child, and we have to deal with people who have behaved badly.

It's not wholly satisfactory to say: "You're bad people. Therefore, we're not going to do anything for you." We occasionally terminate the parental rights of a mother who has custody of a child. This is of great concern to me. On occasion, when a child's parents are divorced, the child is with one set of parents. Sometimes the parental rights of the other parent will be completely wiped out so that there can be an adoption. I find those decisions unnatural and extremely difficult to make. Nevertheless, they have to be made.

We also have problems about this thing called public policy and when is it to be enforced. Does the judge at the trial level decide one thing and then send it up to his superiors and let them affirm, modify, or reject his notions? In these child cases, there is an added dimension,

one in which I somewhat disagree with my fellow judges. I say: "Look, when this decision was made, the child was 2 years old. Now by the time he gets up to our court, the child is 5 and this is not the same case that it was. I think we'd better have a reevaluation."

HARMAN: I have a question tying in with the biotechnology. They are doing chromosomal mappings now. They're at the "run-Spot-run" phase, but they are getting to the point where they'll be able to identify major genetic disorders. They can technically do this within the first month of life. Right now abortion is optional based on several criteria--personal, institutional, or whatever. Assume the child has X disease, or an IQ of 35, or they know they're going to send it to the state institution and it's going to cost X amount of dollars, or it will die within a year or two. Will we get to the point where public policy will mandate abortion for cost containment?

SALIWANCHIK: This is outside my area, but I'd like to respond. I don't think we'll ever get to the stage of mandating abortions. I don't think you should because progress in medical science could cure some of these afflictions that may be recognized in the fetus. Science is working so rapidly that we can expect some of these developments in the future. Even if the baby is born rather unintelligent, it's the responsibility of society to take care of that baby and then work towards some means of correcting that defect.

HURLEY: We're on the verge of mandating abortion. We've had several things on public policy that have come partly from the courts and partly not. In China abortion is mandated. PBS (Public Broadcasting System) had an hour's program on that. It was sympathetic to that. It certainly did not come out against mandated abortion. The end justifies the means because there are a billion people there.

I was chaplain at a home for unwed mothers many years ago. It was policy there to persuade the girl -- not mandate -- to give the child up for adoption. This was seen as the best thing for the child. About 80 to 90 percent of the girls gave their children up for adoption. There's been a vast change in public policy. Today girls are encouraged to keep the child and raise it alone. The single parent has become something of a hero or heroine. There seems to be a notion around that a child can be raised very easily and readily with a single parent. Magazines are full of this. They're making heroines out of these women that are doing it. I have sympathy for those women who may have to do so. But single parenthood is being held up now as a paradigm, not as simply the exception that proves the rule. We've moved very, very far from the idea that a child should have a father and a mother.

The public policy has changed and still is changing. We've gone into a pro-abortion society. We could go from "this is the normal thing" to mandating it. I hope it won't happen. The law as we know is educative. It isn't just simply giving a decision of this or that case. It's also educating the public.

Also, in terms of the contract, many gambling contracts are not enforceable. That's why you have the Mafia. They'll enforce them. I still maintain that in any contract, no matter what it is, the material, the content, the subject matter, is still subject to whether it's valid

or not, whether it's apt or not. I think the Baby M contract was invalid. Here we're talking about the commerce in human beings.

KLAUS: Laurinda Harman was talking about chorionic villus biopsy which has a spontaneous abortion rate following it of between 2 and 5 percent. So it's not a risk-free procedure to begin with. I would hope that people would refuse to subject themselves to this up front, because there's no reason why between two and five children out of a hundred who are developing normally should be killed off because somebody's on a search and destroy kick. As a physician I think my colleagues who engage in that procedure are increasingly being turned into technologists rather than remaining physicians.

No one can be trained in OB-GYN in any institution in the United States today who is unwilling to undertake sterilization and reversible contraception of the technological sort. If someone has a conscience problem with that, they don't enter the training program. They can opt out of abortion, but that's it. If they opt out of the other, they are simply not admitted as specialists in OB-GYN. In other words, we are preparing a generation of professionals who are clones of the mind of the majority. Some of them discover later on they missed something, but up front the door is closed.

HARMAN: One problem arising out of that technology is that people request the procedure in the first month because they want a certain sex, they want a little boy or a little girl. This is not an isolated incident. Physicians are clearly in a bind. People request the test under the guise of genetic screening when they really want to know what the sex is. Then they go elsewhere to get the abortion.

KLAUS: Part of that difficulty is being in a prepaid group. If you were in a fee-for-service situation, you could simply refuse. In a prepaid group you can refuse to do the procedure, but you lose your job instead of simply a patient.

BRUNGS: Roman, I'd like to be able to agree with you, but I'm not so confident. I'd like to read a short excerpt that I was going to use to open tonight's session. This is from Medical World News of March 9, 1987. The headline is: "Legalizing physician-assisted dying may make it to the California ballot." The byline is Glendale, California. "Terminally ill patients in California will have the right to request physician-assisted aid in dying if advocates of a proposed new law are successful in placing it on the ballot next year and if voters approve of it." The bill that is being proposed would give the physician the right to "administer aid in dying, such aid being defined as any medical procedure that will end the patient's life swiftly, painlessly, and humanely."

That could be a step in a progression, though it need not necessarily be. If this initiative is successful, a doctor, if he or she so wishes, will have the right to kill a patient. The sponsoring group is going to try to bring that initiative into all the states finally. The only condition is that you have a terminally ill patient whose death will probably occur, judged by two other physicians, within six months.

According to this article, this would be the first legislation in the western world which would allow a physician to kill a patient. It's at least a definite straw in the wind, one which does not give me confidence in automatically assuming that we won't mandate abortion or the refusal of hydration and nourishment to the "pleasantly senile." You may be right, but I don't think we can automatically assume it.

HARMAN: You're right on track. I think this is going to happen. I wish I could say that it wasn't and I don't agree with it but I listen. I go to many medical staff committee discussions formally and informally. As much as we fight cost issues, we're looking at this. The economists are talking to the policy makers, they're talking to the health care professionals. All of us are going to be affected. We're the ones that are going to be in that alleged terminal state a few years down the pike. Somebody may be making these decisions based on several criteria but one of them is cost. This is worrisome because there are people in the nursing home with no family and whose treatment is costly to the state. The state may not put up with it any more. I say the word "state" but I mean government of some sort.

BRUNGS: This is bound to get more troublesome as we have more older people and fewer young people supporting them. That's already written into the demographics.

BLACKMAR: This is not my field particularly, but is there any doubt that decisions are made today based on cost? We had a comparatively young judge in his 50s who had a malignant condition. Some kind of heroic treatment was proposed, but he and his wife were required to sign a note for $100,000 before treatment was undertaken. Also, there was a patient in University City, Mo., who needed some kind of bone marrow technique available only in California. He apparently had no third party providers. He wouldn't be admitted to the hospital until he could come up with $25,000.

MOREY: I want to return to the point Bob Brungs made about the situation where a doctor could be put into a position where he or she can legally kill a patient. I think, this is occurring right now in California. It is, at least, very close to occurring right now in San Francisco in the AIDS situation. The medical profession is aggressively intervening with psychologists to "counsel" terminally-ill AIDS patients who have a life expectancy of at the most 18 months from diagnosis. They are being counseled to determine, when they become critically ill, how much intervention will be used to extend their life, how much treatment will be applied to keep them alive. They're being pressed very hard to go into nontreatment where they are kept comfortable in a hospice setting with cost savings to society of 40-50-60,000 dollars, which is being equated with extensions of time of life of anywhere from two weeks to a month and a half. We are close to this thing right now.

O'ROURKE: I don't understand the options. What are you objecting to?

MOREY: I'm not objecting to it. I'm commenting on the article that Bob Brungs read about doctors being allowed to assist in the death of a patient. That's the proposal that's being put up. I view this sequence with the AIDS patients as being the same kind of assisting in how you want to die, if you will. This is already going on right now.

BRUNGS: There is a distinction between allowing to die which is evidently what they're doing now, stopping heroic medical intervention....

MOREY: Not stopping, counseling the patient, with the objective of saving the money, to refuse certain types of treatment.

BRUNGS: This is still allowing to die. The person is making the choice to allow the process to occur without any interventions. Is that what you're saying?

MOREY: Well, no. If I understood what you were reading there, they're proposing that a patient can request a doctor to allow them to die.

BRUNGS: This is more. This is aimed at active killing. Such aid is defined as any medical procedure that will end the patient's life swiftly, painlessly, and humanely.

MOREY: Well, if they pull the plug on the patient, it amounts to the same thing, doesn't it?

BRUNGS: No. This would be more like injecting air bubbles into the blood stream or using a lethal drug.

MOREY: This is a real gray refined area. Slipping from one to the other is very easy in my mind.

BRUNGS: I think it's especially easy attitudinally. (MOREY: Absolutely.) People won't stop to make the distinction that is there.

HURLEY: To get down to some of the factual things, I would go beyond what Bob Morey is saying here. The church has set up a hospice situation in San Francisco to allow people to die with care and without great medical treatment. So what you've said is absolutely correct. In the Santa Rosa diocese we have a monastery which cares for babies born with AIDS. We're taking the babies with a life expectancy of less than two years. That's already in place.

But I can say that I'm morally certain that many adult AIDS patients are being asked to commit suicide actively. There is a high suicide rate among the terminally ill. I'm told that they are absolutely asked to end their life, counseled to end their life. I'm told that one method is a morphine overdose.

FITZGERALD: Who is counseling them, the psychiatrists, the doctors?

HURLEY: I can't answer that. I don't know. I know that the rate of suicide is very high in the group now. But let me say very honestly that all of the evidence I have seen in and out of the hospital is that AIDS is not contracted by casual contact. Originally the nurses and the doctors, particularly the nurses, went in and out of the patients' rooms

with gloves, masks, and all that. In two major hospitals in San Francisco they don't bother with that any more. They do tag the place, however, to be careful.

The bishops of California just this week have issued a statement on AIDS. The original draft was entirely too clinical. It was very well done, statistics galore, and so on. But we thought that the bishops should come out with something more pastoral. We stress compassion. Unfortunately, we have rather solid evidence that these patients are being counseled, and I use the word, to end their own life.

MOREY: It's called aggressive psychiatric intervention.

KLAUS: Sometime within the last three months 60 Minutes interviewed a Dutch anesthesiologist who identified himself as part of a terminal care team in a Catholic hospital in Hilversum, Holland. He boasted about having dispatched at least 5,000 people in the last three years. It is general knowledge that in Holland one out of three old people are killed by their physicians at their request. This has gone through the courts in Holland and no one has been convicted, so there is a de facto tolerance of this. Generally they give a sedative and then when the person is asleep, they give a lethal dose. I imagine they would usually use potassium chloride which stops the heart. They talk about this openly. To me it's incomprehensible.

I would ask Bishop Hurley, if this overdose of morphine, is self-administered by the patient.

HURLEY: No. I've heard it said that it's been done at the physician's order. I've heard this on very good authority.

BRUNGS: With regard to what Hannah said, on the same page from Medical World News, another headline is: "Dutch publish lethal list." It reports: "Euthanasia may be illegal here but physicians acknowledge publicly that each year they 'assist' more than 5,000 terminally ill patients in dying." The Royal Dutch Pharmacists Association has compiled a list of lethal compounds to ease the way. The article ends up saying the government has been equally firm in saying it has no intention of legalizing active euthanasia by drugs, but it also mentions that nobody has been prosecuted for this.

DOOLAN: The Dutch have views of civil liberties that are site specific. They have a concept of liberty and individual freedom that I don't particularly understand. I don't think a lot of other people understand it either. I see Holland as a totally different world.

I'm the head of the AIDS committee in our town. We've had nowhere near the number of cases that New York or San Francisco has had. San Francisco County published a report on 70 AIDS patients who went on respirators. The doctor's view was that they could go on respirators because some lived more than a year following getting out of the ICU -- some. Out of 70 patients, two lived a year. The counseling should be that you shouldn't have that kind of care.

BLACKMAR: You mean that you should not go on a respirator?

DOOLAN: Absolutely. And I don't find it so difficult to understand why they might want to end their own life. There's another extreme which I feel quite embarrassed about. We put synthetic vessels in dope addicts who've used up all their regular vessels -- up to and including shooting themselves in the jugular veins. They have AIDS. We end up putting in a polyacrylic graft in the leg, because they're young dope addicts and they're alive. We were investigated by a newspaper and the police, because a woman who had been a dope addict (had shot up five bags of cocaine a day, had been twice out of a methadone program, 14 years an addict). She requested that the central venous line be allowed to stay in her as she was treated for her second episode of bacterial endocarditis. She wanted to shoot herself in the central line. The hospital was investigated because we didn't stop any one of her associated from smuggling dope in. There was a feeling among those attending this young lady that she should be sent to Yale for a plastic heart valve, tricuspid valve replacement. I thought the system had gone absolutely psychotic.

There's another side to that story. The side I see on the ICU is families determining that care be continued and continued. The great incongruity is that the ICU is the mecca of all the most refined technology, but the care is frequently dominated by a family that doesn't have a high school education. None of the doctors in there are anxious to terminate anything. If there's any justification for an ethics committee, of which I have some question, it is helping doctors make decisions to change the code status on some of these patients. That's a very different view. If we're talking about AIDS as presently projected in 1991 it will cost a minimum of $18 billion. That means a lot of other people aren't going to get something.

JUNGKUNTZ: This morning Dr. Anderson talked about the criteria of eliminating or somehow preventing suffering and death. Isn't it one of our human conundrums that we aren't going to eliminate either one of those? Within the technical assumption of the world somehow death has become god. People have begun to believe more in death than in God. We are worshipping death by our seeking to avoid it at all costs. We aren't going to stop suffering and we aren't going to stop death.

BRUNGS: At the same time, one of the signs of the Messianic times, according to St. Luke's Gospel, is the alleviation of suffering: the deaf hear and the lame walk. The attempt, at least, to alleviate pain is a Christian calling. Somewhere though, we've gotten off the track. I agree with what you're saying. We do flee death at any cost for as long as we can possibly afford it. Maybe this is simply built into human nature. I was talking to Ivan Illich in Washington in February. He said: "I have a very simple solution to this. Learn how to suffer." Well, that is a solution which has much to recommend it, but it's only a part of the Christian solution to suffering and pain and finally death. While we have to learn how to cope with suffering, we still have to learn to do our best to alleviate it, but not, however, to the point where alleviation becomes more important finally than acceptance.

JUNGKUNTZ: As a chaplain in a geriatric hospital it is very evident to me that the question gets pretty paradoxical. Are we alleviating suffering or creating it?

BLACKMAR: I understand, doctor, that you were suggesting that if you have an AIDS patient, and the best opinion is that the patient is terminally ill and can be kept alive

a little bit longer by the use of a respirator, you would think that the patient should be counseled not to use the respirator?

DOOLAN: Absolutely.

BLACKMAR: I know an elderly man who had diabetes causing problems with the circulation in his legs. He said: "Don't let them cut my legs off." It was a perfectly rational decision. As I understand it, he has the right to make that decision. He's not being counseled; it's hiw own opinion. What about that situation? My understanding is that he has a perfect right, so long as he's in possession of his faculties, to say that he simply doesn't want this treatment done.

DOOLAN: That's right.

HURLEY: I don't see anything wrong with what you've said at all, doctor. I am not in an adversarial position with that. The question comes up about the means. Judge Blackmar used the word heroic means. Pope Pius XI asked that his leg not be cut off. He died evidently from something which amputation might have helped. I don't see any problem there. But this has gone much further, as the article Bob Brungs quoted shows. We in California lead the nation in all these things. California is a land that lives in superlatives: the best weather, the best this, the best that, the most of this, more people. But "the worst" is also a superlative.

We have a relatively new question to face legally, namely, whether we can withhold water and food. It's beyond the case of respirators. The church has said that we don't have to use heroic or extraordinary means, but now theologians talk about reasonable treatment. That word makes more sense, because the extraordinary has become ordinary in the medical profession. It's advanced that much. I believe we can use the term "reasonable means" to keep people alive. That's what I've operated on. But the question has now become: "Is it reasonable to take away water from a person who would have to get it intravenously or through a tube? Some theologians are saying now that it is. I don't know about that.

BLACKMAR: What does the patient say? There was a case in California, concerning a woman who didn't want to be forcibly fed?

HURLEY: Yes, the courts turned her down. She's still alive. She asked that the doctors actively take her life and the courts refused to allow that. On appeal they refused to allow it. But again, she wanted to do it. She said she wanted in a real sense to commit suicide.

MOREY: Can I ask a question? This is not meant in a sense of give or take. When a professional counsels a terminal patient to do without treatment of some form, in this case a respirator, what is the purpose of counseling? Why is the counselor saying, "We don't think that person should be on a respirator?" What are they trying to achieve?

DOOLAN: They're trying to achieve a less painful balance of whatever life span they have.

MOREY: If that's what they're trying to achieve, that's very admirable. But somewhere in this process the economic considerations are creeping in. I get the very distinct impression that the professional counseling that's going on, at least in the situation we have in San Francisco on AIDS, has everything to do with economics and very little to do with the comfort of the patient.

O'ROURKE: Would you say that it's immoral to take cost into account when you're making decisions about treating patients?

MOREY: I don't know if it's immoral, but I do know that this is one of those paths that, when you start down it, you are stripping away the dignity of the human being. I think this is what the Pope has been talking about in many of his recent statements.

HURLEY: I've advised at least 12 people to withdraw from what I considered unreasonable means to keep them alive.

MOREY: But you weren't doing it for economic reasons.

HURLEY: No, but I don't think it was immoral to discuss what effect this would have on the family and so on. I don't recall a case where it had to do with money as such.

FITZGERALD: Bob, I think you're absolutely right. It can lead to the stripping away of the dignity of people. The problem is that it already has. It's stripped away the dignity of the people who can't afford the medical care because at times there has been that sort of psychotic use of the technology. We have the technology, so we have to use it every time. We went too far down that path. Because of that, there were a lot of people whose dignity was stripped away due to the economics where they couldn't afford the treatment. Examples were brought up before. You have to pay $25,000 down to get into the hospital. If you don't have that, I'm sorry. Some kind of balance must be struck. We don't want to go too far the other way but we have erred in the past in the use of the technology.

DOOLAN: I write things on subjects other than medical ones. My wife, who's a journalist, said that I come out with some neat phrases. It's a pity that I can't sustain them to the length of a sentence, let alone a paragraph. One of my essays was in favor of the bomb. I worked for the admiral who made the bomb. I know a lot of physicists. I think it was a great thing. I didn't understand all this anti-nuclear stuff. It might be good to knock off the human species, and start with a genome superior to Adam and Eve. Their first offspring weren't very good -- Cain and Abel. But I can't correct the defects of the human condition.

At the Medical College of Virginia there was a Baptist hospital administrator. He left the Medical College of Virginia and went to a small Baptist hospital in North Carolina. I asked him why he left. We take up three city blocks. We're big, we're powerful. He said that he went because he wanted to go some place where the doctors were there for the patients rather than the other way around. I think a lot of people feel that's what's happened to American medicine. But it's not restricted to American medicine.

But we're not going to stop the growth of our ability. That is part of the human condition. We're not going to stop people from a need to know. We're not going to stop people from moving on. I don't see how we can moralize about all of these things. If I wanted to be skeptical, I would say that one of the greatest ills that's confronting the people in this country is the production of 36,000 lawyers per year. The president of the United Kingdom Bar Association, a friend of mine, told me there's something like one lawyer for every 900 Americans. This is a ratio that is so out of keeping with other western democracies it's not even funny. I can't say that doctors are morally superior to lawyers. All I will say is that the trust between patients and doctors has been replaced by cynicism. You can talk about the doctor who wants the money up front. But for the first time in 40 years I've heard doctors talking about looking for a retirement program. I never heard that before.

SALIWANCHIK: I don't want to defend lawyers, but I think one aspect of the problem is the very large number of old people we now have. With patience and work, geriatric medicine will be much better than it is today. We won't achieve that purpose by killing off people. I think you're going to need these people to work with. Our older population is not going to decrease. We're going to have to find some way to treat older people. It's only a matter of time before we learn how to do it.

DOOLAN: I don't know of any patients being knocked off. I have to do a number of things in Waterbury, Connecticut, such as do surveys among family practitioners who are basically the only people who go to the nursing homes. Part of their ethical problem is whether or not the patient should be referred from the nursing home to the hospital. If they come into the hospital and they get in the emergency room they're going to get treated. The emergency room staff must make a decision in five minutes, maybe, to put somebody on a respirator. Then the question is whether to take them off. That's a different question and it's a tough question.

MOREY: I'm not castigating the medical profession in any sense. I would suggest that these critical questions of treatment are becoming increasingly complex and difficult to deal with now because of the advance and the availability of new technology. I would suggest that we create a system in which those decisions are made by people who are not tied into the economic ramification of the decision. Maybe we should have an ombudsman, so to speak, making that kind of a decision. Maybe we could have an ethicist or a counselor who also deals with those choices. In my mind, the person who is making the decision should be removed from any of the financial ramifications of what that decision means to the system. Otherwise, it's inevitable that economics are going increasingly to encroach on the ethics and the dignity of the society.

## SESSION V

BRUNGS: Everyone must have noticed how easily we slid this afternoon from a consideration of the early stages of life to a consideration of the last stages of life. It is strange that we can consider, almost in the same breath, the early stages of life and the end of life, almost as if they were the same thing. I wonder about the connection here. Is one of the connections the notion of death as the solution to the problems of life? It has become easy to look on death, either its acceptance or its dealing, as a solution to a problem.

In the beginning of the afternoon session we touched on public policy. We know that we already have people running for the presidency in 1992. Why does it take 4 to 6 years to make a serious run for the Presidency? One of the reasons, it seems, may be a weakening in what I would call, for want of a better word, the mediating agencies in the country. Most of us are old enough to remember when the election campaign started on Labor Day. All the preliminaries went on inside the party. The Democrats met and proposed their candidate. The Republicans met and proposed theirs. The actual campaign started on Labor Day. It was the mediating agency, the party, which picked the candidate, not the electorate at large. Now it takes so long and costs so much because would-be candidates feel that they have to appeal not to the party but to each individual voter in the country. There is a preliminary campaign just to get nominated.

One of the problems with public policy is this breakdown of mediating institutions -- churches, political parties, academic institutions, labor unions. It's not coincidental that they've all weakened at the same time. The labor movement is a joke compared to what it was 40 years ago in terms of its ability to mobilize workers. For whatever reason, unions don't have the clout they once had. It's as if one has to appeal to everybody to get a point across.

What does public policy mean in that kind of a situation? Our society is more like 250 million tiny little nations bound together by treaties that we call laws. The more problems we have, for instance those arising from technology, the more laws we need. A lot of this would have been taken care of in the mediating societies. These mediating societies contributed very much to what Walter Lippmann called a public philosophy.

BLACKMAR: You could state this in other terms when you're talking about the political parties. Andrew Jackson ran for the presidency on a slogan of "down with King Caucus." He wanted to do away with the situation in which a few people got together and decided who would be the party's nominee. He felt that he had been done in by that system and so he was the first advocate of national conventions. Later, it was felt that the conventions were simply glorified caucuses. The campaign started on Labor Day but the foundation was laid many months before by people in smoke-filled rooms. The conventions were pretty much controlled, with wire pullers and the king makers. So people asked for something else. The best thing that they have come up with are presidential primaries. I don't advocate those. The Missouri Constitution forbids me to participate in politics. The present system involves long time media appeal, trying to do just what you say. But it came as a reaction to a feeling that decisions were being made by a few people behind closed doors that the public had no part in. Was the party a good or a bad influence? You could get a few opinions on that. I think a resentment of these mediating organizations grew because they concentrated too much power in the hands of too few people.

BRUNGS: This is reflective of what was occurring across the society after World War I. There was a grave weakening of the force of authority. This is not surprising. Authority, represented by generals who couldn't learn in four years that massed men were no match for massed machine guns and artillery, should have lost respect. The only point I am making is that there has been a weakening of mediating agencies to the point where, if you will, society is highly individualized, highly privatized or atomized. Walter Lippmann, 60 years ago, saw that all the agencies that provided the focus for society were breaking down. What does public policy mean in a situation where society is this highly individualized?

SALIWANCHIK: Do you think that maybe some of this change in the way we conduct elections may be caused by television?

BRUNGS: It might be. Television might be another of these forces that is breaking down the intermediating agencies.

SALIWANCHIK: It's to the interest of the television industry to have an extensive campaign. It seems to me that this developed at about the same time as the television industry developed. It may not have occurred because certain groups have lost their effectiveness. It's just that we have different ways to present information to a mass of people.

POSTIGLIONE: Even though television is a mass medium, it's one-to-one also. So you're still looking at that privatized individual.

SALIWANCHIK: Right. I think people appreciate the fact that they can turn on a set and be informed just as well as the most important person in the United States on a lot of issues, because of the vigorous news teams that we have.

BRUNGS: But in other societies, it is used to strengthen the communal bond. The radio in Nazi Germany was a brand-new instrument and used for, if you will, the furtherance of public policy. I don't know if that's the phrase you'd want to use for what they were furthering.

SALIWANCHIK: You're talking about public policy now. I was picking up on why elections have changed in the manner they have. You've got a different point on public policy.

BRUNGS: I'm asking if we have a public policy? If we don't, what happened to it?

SALIWANCHIK: We've got a very diverse and probably more highly democratic society now than we've ever had before. It's going to be very hard to get everyone or a large group of people to agree. As we get more educated, we feel we can make decisions. It's going to be harder to get people to agree to the same thing.

BRUNGS: Can we maintain an actual national entity without a public policy?

SALIWANCHIK: We are the first nation ever to get to this distance. I think we'll find out if we can.

BLACKMAR: In a recent talk for the Constitution Bicentennial, I suggested that the framers of the Constitution founded a nation that in their mind should be pretty much controlled by people who were white, generally affluent, mostly of northern European origin, Christian, very largely Protestant and male. That group entered into certain assumptions, certain tenets, that were generally held. We had various disruptions, like the Civil War. We had an amendment to change the fundamental nature of the body politic. Then rather reluctantly several decades later, women were admitted to the body politic. We have a much more diverse group so it may not be surprising that we don't have the consensus that existed at one time.

KLAUS: What are you driving at? Public policy on what?

BRUNGS: We were talking about contracts that were not valid because of public policy. We had public policy, for instance, on public education when I was a child. Public education where I grew up was Protestant education. There was a general consensus in the community that this is what the community wanted.

Take a recent radio call-in show question: should we have Christmas carols in the public schools during the holidays? The discussion centered on whose Christmas carols ought be allowed. Thirty years ago that wouldn't have been an issue. But now it is an issue. Should we teach values in schools? Whose values? That would not have been an issue 30 years ago. Whether we lived it or not, we had at least an articulated body of shared values as a society. I don't think we have that any more. If we're going to void contracts on the grounds of public policy, what is public policy? There may be a few things we would agree on. Somebody mentioned this afternoon that slavery is certainly still one.

O'ROURKE: This afternoon we spoke about many realities but not about the implicit underlying reality of the spiritual meaning of life. Personally, that's what I use when I work with people in health care to justify such things as withdrawing life support systems. It's also what I use when I try to explain to physicians why they have an ethos -- not an ethic but an ethos -- of continuing life support until the body gives out. Physicians don't look toward the spiritual purpose of the human being. I'm not saying this is true of all physicians, but this is the ethos of physicians who promote life support extensively. They look at their function as concerned with the physiological wellbeing of the individual, not the spiritual wellbeing of the individual.

If we're going to use such terms as "reasonable," "ordinary" or "beneficial" means to prolong life and say that, if it's beneficial or reasonable, we will utilize that form of care, then our underlying reason for saying something is beneficial or reasonable has to do with the spiritual side of life. The spiritual purpose of life can be defined as friendship with God. If prolonging life doesn't contribute to friendship with God, then, I believe, the life support system can either be withdrawn or not applied in the first place. I'm suggesting, in other words, that,

while we have used many terms here today and last night, we haven't talked about the purpose of the entity that we're concerned with. We haven't asked the purpose of the action that we're involved in. We have to get back to the spiritual purpose of life and justify our activity in that regard.

This is what I use with physicians, who are not Christian. Most of the non-Christians with whom I work will say: "Yes, that does have some meaning." The Christians often say: "Well, yes, that's what I conceive of my life being about, but I don't very often bring my medical expertise together with my Christian commitment." I'd like to put that forward to see if it has any merit. Does it give more meaning to some of the things we've talked about?

ALAVANJA: Is not the basis of our nation, as perceived by its founders, taken from Hobbes or John Locke, namely, you enter into the social contract because the contract will protect you from man's state of being outside of society. He or she enters into the social contract so that he or she personally can be protected together with his or her property. That is the reason for the social contract. In that sense, it's quite different. I think it leads you to quite a different conclusion about stopping life support.

O'ROURKE: I would like to comment on the first part. I don't see the connection with the second part. In regard to the first part, I don't believe that we enter into a social contract. We are part of a social community by reason of our humanity. We don't have, so to speak, a choice to be in it or out of it. We are in it, if we're going to strive for any type of fulfillment. It's akin to what Don Keefe's paper said about people being individualistic or communtarian. That is not something that comes from, shall we say, their choice. Rather that's who they are. Would you say more about that notion of social contract having something to do with prolonging life?

ALAVANJA: It's been quite a while since I read Locke and Hobbes. My interpretation is that the reason an adult chooses to be in, and continues to stay within, a society is because it confers this benefit of protection. If that is the basis for it, it leads into the question of terminating life. If it's for the protection of life that you enter into this social contract, then it seems that the termination of life is at the essence of the social contract. It's not for the promotion of a friendliness with God that we're entering into this contract. This is not my personal view, but I think it's a point of view shared by many in our society.

O'ROURKE: I see what you mean now, but I think that the term "life" might have more meaning than simply "existence." What I call friendship with God other people might call a meaningful life, or a life of relationships, or a life of ease or whatever. But I think the term life might be more extensively examined. Maybe there would be some coincidence. For the Christian, of course, friendship with God implies certain responsibilities and certain sacrifices that one is able to make, not because one likes sacrifice, but because one sees meaning in the sacrifice. I agree that there would be many people in our society who would not share that. But I've never found anyone who's said that physiological function is the goal of human life. That's an outer limit.

KLAUS: There's a tremendous debate going on about the implied or the explicit obligations which those of us who are caretakers have for people. Now when you use the word "life support," are you simply supporting life as one does in caring, or are you using that word as an active intervention to prevent natural death?

O'ROURKE: Well, you can use it for both. You can care for a person in both ways. You can care for a person to prolong life and you can care for a person to prevent pain. Most physicians try to prolong life.

KLAUS: Then we get into the whole business of when it becomes burdensome and meddlesome. Certainly the American Medical Association feels that there are times when one does not even need to provide nutrition, which to me is a very unacceptable position. Perhaps the comatose person who is being thirsted and starved to death does not know this, but what does that say to me when I actively exclude someone from the human community? Who am I then? I am a killer. We have to look at that also.

O'ROURKE: I wouldn't agree with you.

KLAUS: I've been in the position of having to make those decisions many times. I can tell you that if I saw another human who happens to be my brother or sister in Christ -- no one is excluded from that definition -- and if I ignore their need when I could help them, I am culpable.

O'ROURKE: What is the need? That's the question. You're assuming that there are some things that are needed which really you have to examine and prove. That's the ethical question: what is the need of this person in this condition?

KLAUS: I happen to have a very simplistic view. I believe, since God gave life, it's up to God to take it away. When God chooses, that time will come. I'm not the one who has to hasten that moment. In fact, if I did, I would be guilty of killing.

O'ROURKE: There's some care that you could give to dying people that you sometimes withhold. Is that not true? Didn't we talk this afternoon about 78 people in the AIDS unit out in San Francisco. You said that you wouldn't put them on a respirator. They'd live longer on a respirator though, wouldn't they?

KLAUS: I would not accept a statement like that without knowing the condition of the patient. Are they strangling? Are they struggling for breath and you're standing there saying, "You don't need a respirator?"

DOOLAN: Yes.

KLAUS: And you could walk away from that?

DOOLAN: Sure.

KLAUS: I can't, okay. We're both licensed physicians.

DOOLAN: But that's because you don't deal with it. Say you had a patient with refractory pneumocystis, you have COPD. You have a choice of putting him or her on a respirator and keep the patient going for another month. According to the judge, this has been reviewed by the gay community in San Francisco and in the main they've chosen not to go on respirators.

KLAUS: Hold it. Would you answer another question for me? Were you to put this person on the respirator, would you make them more comfortable or would you just drive them longer?

DOOLAN: I don't know.

KLAUS: I think that's a question that has to be answered.

O'ROURKE: You did say that you wanted to prolong the life of everybody.

KLAUS: No. I said I did not wish to shorten it.

O'ROURKE: That would seem to mean that, if you have the power to keep things going, you should do it.

KLAUS: There's a difference between using machinery which is burdensome and which actually adds to the pain of life which is already fatally ill.

O'ROURKE: Now you're introducing the notion of burden and pain which is different than just extending life.

KLAUS: Of course. You have to be rational about it. I'm saying that you can't walk away and leave somebody to suffer just because you've decided they've had it.

MOREY: There's an anomaly here. You talk about where life and death come together! At the end of the second trimester the medical profession currently can abort. But if that baby is taken, it can be saved at that point. That's where the technology is. (KLAUS: Twenty weeks.) I thought we were right at the second trimester. OK. But 450 gram babies now are being saved. That's about one pound. The economic issue is to abort at little or no cost or to save the baby at enormous cost. Putting the economic issue aside, we still have the issue of different ethical parameters assumed by different physicians. We have physicians on one side saying: "We choose to abort on request," and other physicians saying: "We have to preserve this life because this is a viable human being that can be saved." It's an incredible anomaly in my mind.

DOOLAN: I find this search for biologic first principles to be a bit more than I can handle. I learned a lot of things from Judge Blackmar's paper. One, he reminded

me that the law does best on individual cases. And that's so in medicine. I won't go back to Hobbes. I'll come to the National Health Service in England which is recognized as part of the social contract. If we appropriated the money in the national health service in this country the same way that it is appropriated in England, Bishop Hurley might not be with us tonight. A few years ago there was only one cardiac angiography lab in London. They consider open heart surgery as a technological luxury. Our views are entirely different. Some say that we're needlessly prolonging life. Others say that some doctors are practicing euthanasia. But look at the National Health Service which has the lowest number of patients on chronic dialysis of any western democracy. That's a decision they've made. I know these things firsthand.

I helped develop the artificial kidney. I've been dumb by the Reagan economics. One, I didn't make a penny from commercial dialysis units. Two, I'm testifying in a patent case because I didn't make any money on peritoneal dialysis or on chronic hemodialysis. I put the first patient on chronic peritoneal dialysis in San Francisco at Mount Zion Hospital in 1960. But having the opportunity to study biochemistry, and personally preferring the laboratory to the patients, I went to the laboratory and I had practically nothing to do with the development of chronic hemodialysis in the United States. I sat on the NIH committees, but I didn't do anything in terms of taking care of patients. I'm not very proud of myself for that, because a lot of patients have had their lives prolonged with artificial means for a long time.

I don't know what is meant by public policy. Public policy to me is as elusive as "the public." I don't know how you generalize on some of these medical matters. It seems to me that most of them have to be decided on a case by case.

BRUNGS: You just gave us an example of public policy -- we will spend this money while in England they won't. Somewhere in the public attitude that policy exists. But that still is not what I mean by public policy or public philosophy.

SATTLER: That kind of a case-by-case basis you've suggested has become a public policy largely because our pundits and commentators by and large think that there is no spiritual life, no life after death. That individualism is the public policy. Your case-by-case decision is public policy now. I think that we have to come to some kind of fundamental principle: what is a human person and is such a human person inviolable. That would be a different kind of public policy.

CHANDLER: Bob, we've discussed some of your concern about public policy before, and I'm never quite certain what you're trying to communicate when you say it. But I'm struck by the time you pick, the end of the First World War. At that time roughly 80 percent of the population was agricultural. There was a lot less heavy industry. In the intervening 60 or 70 years, there's been a richness and diversity added to our industry and to our employment patterns, and so on. The complexity and the interconnectiveness of these different segments is quite loose now. The computer industry is separate from the steel industry, from the policy of the steel industry which is separated from the health industry in certain ways. This segmentation and diversity leads to a very focal public policy with a high technological content. Most of the policy that I see being made is done at a fairly intellectual level in terms of balancing needs

and forces within small groups of our society. The general parts of policy are quite a different matter.

When you talk about this, are you talking about something as specific as kidney dialysis and the events shaped there by the experts versus a position on what should we do to support the computer industry against the Japanese? Those are very, very different aspects.

BRUNGS: I'm not speaking on either of those levels. I picked World War I mainly in terms of a breakdown in the kind of a more communally orientated society that existed up till then. The author that probably said this most poignantly was D.H. Lawrence who stated that all the great words dropped out of the life of that generation. By the great words he was talking about such words as honor, patriotism, duty. All of these are communally oriented virtues. What communal emphasis do we have in our society now? I'm sure there's still some. But how often do you hear John Kennedy's words: "Ask not what your country can do for you?" Now we hear: "nobody's going to tell me what to do," although we patiently sit still for most traffic laws because the chaos that would result from not doing it would be immediately evident and rather graphic. I'm asking if we have lost a lot of the communal dimension that once characterized western civilization and this country itself? Have we substituted for it a much greater emphasis on the individual? That's the only question I'm asking.

CHANDLER: Has it been lost or has it been transformed because of the economic situation, the way our economy runs and the way specialization has occurred within various segments of technology which can't converse with each other.

BRUNGS: Well, it's broader than that, I think. In physics an experimentalist can hardly talk to a theoretician even in the same subdiscipline. But, I'm not talking about that kind of specialization. I'm talking about where we as a people first look. Do we look to the communal dimensions of our lives or do we look to the individual dimensions of those lives? Do we try to bring those two things together?

KEEFE: There is a semantic problem here. People who discuss this sort of thing in contemporary essays on jurisprudence have begun to distinguish between principles, which are first order convictions, and the policies, which are the more or less political implementation of those first order principles. Someone such as Dworkin or Rawls will speak about a principle, say, of fairness. Its implementation would then be a matter for debate, resolution on a legislative level. The political function handles policies, that is, say, a broad monetary policy or foreign policy. But these would be framed in a light case upon the world by certain principles which would be themselves the a priori of politics. It is those principles, the a prioris, which it seems are now an issue because they have to do with the very meaning, the fundamentals, of what it is to be human. This is only remotely involved in things like foreign policies, domestic policies, allocation of funds, things of this sort.

As soon as one finds religious people in politics, whether Catholic, Protestant, Jew, or whatever, they are there fundamentally because of interest in these first principles -- the sort of thing that moved the judges at Nuremberg. It was not policies but principles. For half the

time this evening, we've mixed the two as though they were continuous. They're not.

We forbid slavery in terms of principle. This is not a political option. We can have no policy in favor of slavery. This is ruled out a priori. The problem today would seem to be that, if there is anything ruled out a priori, is it ruled out by principle or by some whim that we do not care to examine? There are certain things that are certainly ruled out a priori. People have been shouted down in the fora of fair Harvard, for example, for suggesting that there is some connection between intelligence and race. This is not something that can be the subject of an experimental investigation in the contemporary scientific community. It is ruled out. I suspect that this is not a matter of principle. It is simply something that is accepted for reasons that no one really wants to talk about. There are other things that are ruled out for equally undiscussible reasons. This is simply part of the human condition. Principles have to do with the fundamental gut issues that people will die for. It's been urged in some quarters today that there is nothing of that sort around any more. Maybe. But that is the issue, not resource allocation and these interminably discussible subjects of who's right and wrong on this or that issue.

When I mentioned a contract being against public policy, I should have said a contract which is against those principles upon which a free society rests. Otherwise, it could be inferred that we're talking about a matter of choice, politics, people: some people like one thing and some people like another. That just muddies the waters.

BLACKMAR: Who is to make the decision?

KEEFE: A free people. This is the debate that Shaw's case, mentioned in my paper, brings up very sharply and acutely. That is why I raised it. The courts have discovered that it is utterly impossible, for example, to write a set of legislative canons for the legal profession. The canons of professional conduct have to be sustained by a lively conscience among the practicing attorneys of what is fitting and decent. If you try to pin it down, you'll be writing forever. You're trying to describe a particular concrete. It was one of the great discoveries of medieval philosophy that the concrete is incapable of being defined.

BLACKMAR: Shaw's case was an English case in which a certain gentleman in London published a pamphlet known as the Ladies Register which contained the names, addresses, and phone numbers of certain ladies who were available for pleasure on economic terms. The question was whether that represented an offense under which he could be fined and imprisoned.

KEEFE: Without benefit of legislation.

BLACKMAR: Yes. The question was whether the common law could punish that offense simply on the ground that everybody knew this was contrary to morals. That would not sustain a prosecution in the federal courts in this country. Probably it would not sustain a prosecution in state courts. Our attitude would be, I think, that if the legislature thinks this is dangerous, the legislature should pass an act which then may be enforced. I rather like the

idea of the written law. I wouldn't dispute your claim nor would I deny the capacity of a jury to decide whether the Ladies Register is contrary to morals, but I would like to have it in writing.

KEEFE: The difficulty is that the opportunities for iniquity always outrun the inspiration of the legislature.

BLACKMAR: Well, I've got a lot of reservations about having somebody who can punish iniquity. I don't believe this was a really serious matter.

KEEFE: No. That's why it was a beautiful example. No one could get very worked up about the viciousness of the crime at hand. It was certainly, let us say, reprehensible in some sense -- whether it was bad manners, a misdemeanor or, shall we say, an irregularity. Can a common law indictment lie for this sort of thing? To sit down and solemnly discuss it in the council chambers of Parliament would be, I think, ridiculous. Can you imagine spending much time debating whether it is all right to write a handbook for prostitutes?

BLACKMAR: Oh no. We have a criminal code that goes into various offenses that nobody spends much time debating.

KEEFE: No, but they are the results of centuries of experience. They're just codifications and they're copied in because no one objects very much. But this rose out of something de novo under English law. They had had a great deal of customary experience of how to handle the problem of the street walker. The commission in 1957 that handed down the Wolfenden report recommended that these laws be changed, so Parliament made changes in the law thereby deciding that prostitution per se is no longer an offense. Solicitation is the problem. They must stay off the streets. So this fellow saw a felt need of getting the product to the customer. This was de novo. Under these circumstances, is there a process available by which one may pass upon this? A lot of people weren't happy with that. Dworkin spends pages discussing this.

DOOLAN: Bob, what did you mean by public policy?

BRUNGS: I meant what Don is now calling principles, those things that guide a people. I said "policy" because that was the term that came up this afternoon. I mean by "public policy" what Walter Lippman meant by a "public philosophy," those things we commonly agree on that unite us as a people.

DOOLAN: There's a book by a splendid intellectual, Gary Wills, called Reagan's America: A Return to Innocence. He talks about all of these issues -- Reagan's devotion to Roosevelt, the impact of radio in America, the impact of radio on Reagan, the impact of being a sportscaster, the impact of the movie business, the beginning of the movie business, why Los Angeles was so violently anti-labor, the first dirty politics in Los Angeles. He basically says that Reagan made the country feel good about itself, and Reagan has effected

a lot of things which seem to me to touch on public policy such as a return of prestige and authenticity to the White House. Certainly he's had a policy on foreign policy. He also would be accredited by Gary Wills to be the first president in quite a while to be really interested in domestic affairs. This seems to "touch on" the national taste, policy or whatever. I don't know if you're not satisfied unless we have legislation which is that form of declaration of policy.

BRUNGS: I don't think you can legislate what I'm after. How often have we come together as a people in the last 40 years? I can think of five occassions: Kennedy's assassination, the moon landing, the Challenger tragedy, the Bicentennial and the rededication of the Statue of Liberty. We didn't need legislation nor a declaration of war to be united as a people by Pearl Harbor. It seems now that much of the communal dimension of human living is at least unexpressed in our society. That's all I'm trying to say. I'm not talking about political policy. I'm not talking about legislation. I don't think you can legislate a unity of people. One of the problems, if in fact a public philosophy or a public consensus on important issues has broken down, is that we will need more and more legislation simply to exist in common. These are the "traffic laws" that keep us from violently colliding too often.

DOOLAN: I think you've got a good point there. George Will claims that nations should be known not by their laws but by their manners. I think that's a very important thought.

O'ROURKE: I don't want to engage in debate but you mentioned Wills' book. I understood the book not to be in praise of Reagan but rather in explaining him and explaining many of his shortcomings. I don't wish to get into it, but I don't wish the idea to be accepted that what Reagan stands for is authentic or that it is good principle or good policy for the country.

DOOLAN: I have to respond to that. Wills relates Reagan to timeless individuals -- Edison, Franklin, ageless and timeless. I didn't mean to suggest that Wills is a leading public relations man for Ronald Reagan. He explained to a large measure the great communicator and that's really what I meant by it. The book is an explanation of Reagan.

CHANDLER: Let's go back to the issue of principles or policies or whatever we want to call this. I'm uncertain that it's merely semantic for that level. What might bring us together in the sense that you seek (I suspect in a spiritual sense) from the examples you gave? If we're looking for that in the United States of America, we may be looking a very long time. One of my German friends summed it up best when he said the last capitalist will die in America.

HURLEY: I want to suggest that talking about the difference between individualism and public policy is often put down under three heads. There is public policy; there's a public order; there is public morality. If we don't have order, we can't get together. There has to be some minimal public order. There has to be public peace. We talk about law and order. We talk about justice and peace. This is necessary for a civilized country. It strikes a balance between individualism and the communal aspect that you're speaking of.

And there is such a thing as public morality. It's not co-terminous with demoninational reality or with Catholic theology, but it does have some of these elements. These are three areas in which a civilization has to operate. There must be peace and order. There can be no peace without order. There is a public morality as well. There are certain things our society will not accept. I believe those three areas spell out in some way the parameters under which we do have a public policy. We have to cover those three areas.

KEEFE: The need for a set of public decencies is manifest. The Nazi war criminals were prosecuted not under any legislation but under a general recognition of the indecency of the Nazi regime and what it had done. There was a very considerable problem about the legitimacy of the Nuremberg proceedings and they're still discussed. I don't think anybody's very worked up about it, but the Nuremberg Trials cannot be explained on positivistic principles. There has to be a general recognition that certain things are indecent.

What underwrites that recognition? Is it just the whim of the moment? It seems to have been something rather more powerful than that. The explanation, I think, is finally a religious one, and this raises the specter of a civil religion concerning which Robert Bellah has been exercised now for some 20 years. I don't mean the sense of some public liturgy in which everybody makes patriotic prayers. But I don't think, on the other hand, that you can maintain a morality, public or private -- well, no morality is really private -- except in terms of some kind of worship.

This has been the source of law primordially, from the beginning. You can go back to some books such as The Ancient City of Fustel de Coulanges or A Study of the Origins of Law in the Middle Ages. The law seems to emerge, out of some sort of liturgical consensus. It isn't even given a particularly explicit expression. It's symbolic for the most part. The criminal law tries, I think, to articulate the more indispensable features of that symbolism in such ways that, when someone violates it drastically, there is a response, a vindication of the symbolism. But, when you go into this to any depth, you discover that you're knee deep in theology and it's a very sticky business, because these symbols may undergird the law but they have to be freely entered into. Otherwise, you're just back in some sort of cosmological despotism. And that is a great problem for political theory today. How can you give it something more than a purely voluntaristic ground, something resting finally on power, and, at the same time, give it a content which will not be an imposition on people's freedom?

BLACKMAR: Is there anything that is more dependent on power than the Nuremberg trials?

KEEFE: That was the great debate, wasn't it?

BLACKMAR: Well, it was a great problem. Frankly, I have problems with it. It's one thing to condemn people. It's another thing to straighten them up. We have to proceed in realizing that, had it gone the other way, our leaders would have been no doubt the ones who were strung up. The Nazis wouldn't have hesitated on that. They wouldn't have had any compunctions. But I think it shows a difficulty of drawing any conclusions on something like that.

KEEFE: I think if you assume that all moral decisions, no matter what their conflict, start out on equal grounds, then it's just a matter of whether you like apples or oranges. That position is the end of any possible objection to any possible conduct. As soon as you simply suppose that the War Cimes Trials were a matter of Vae Victis (woe to the vanquished) you put it back on a pagan level. There is a famous letter of the Athenians to a little village in the suburbs where they killed all the people. They explained how utterly rational it was that they should act that way, because, if the other side had won, they'd act that way. That is a totally pagan worldview -- cold, clinical use of force.

I would suppose that in the western world there is at least some intimation that morality is of another order. The War Crimes Trials were sullied by the presence on the bench of members of a totalitarian society, at least as vicious as the Hitlerian one.

When one comments to the conviction of some of the Japanese warlords, Homma is a particular case. He was, in the judgment of a good many people -- I'm not competent to have an opinion on it -- executed in revenge. That this can happen (and it colored the proceedings) I have no doubt. On the other hand, it is also true that you cannot simply make an honorable peace with the murders of 20 million people in death camps. That I think is true. Something must be said, more than: "Well, sorry fellows, you lost."

BLACKMAR: Of course, you do have a problem when any human being decides that another human being should be executed. That is a problem.

KEEFE: Well, when we become delicate about people who themselves executed not hundreds of thousands but millions, it becomes, as you say, problematic.

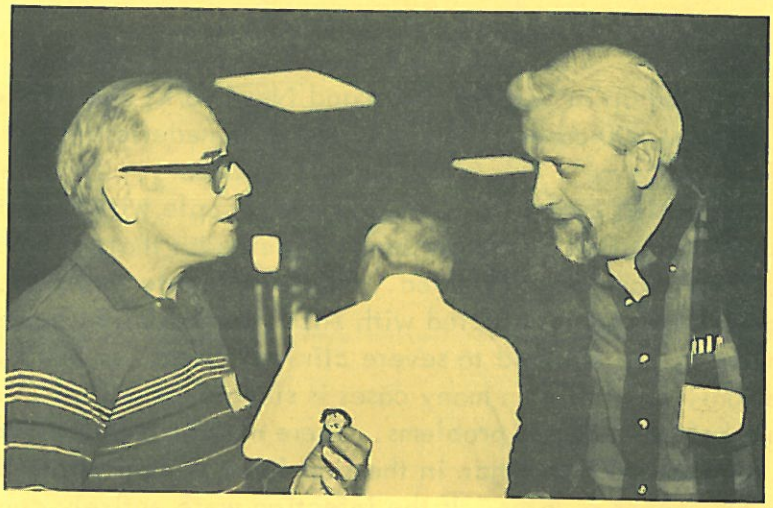
DOOLAN: Do either Father Keefe or Father O'Rourke feel as though the church is doing its share in raising the awareness of these important principles.

O'ROURKE: I always answer that with another question: who is the church.

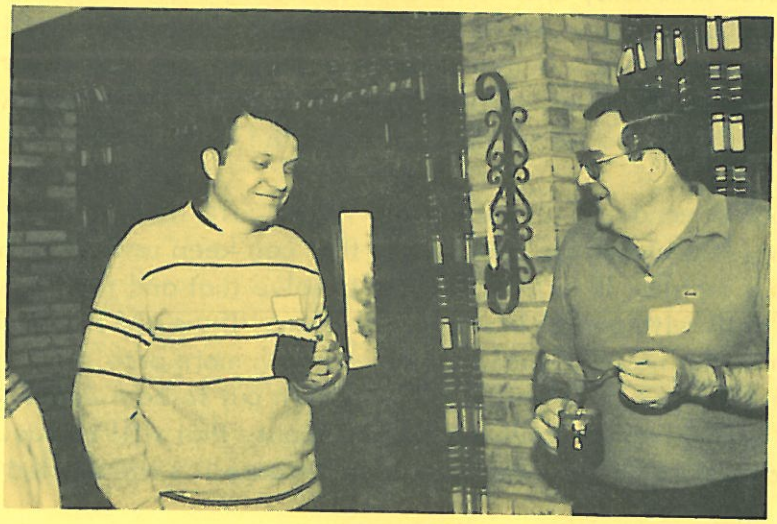
DOOLAN: I wonder whether or not you can be a Christian without correspondence in every belief? It seems to me that there's plenty of room for diversity within that.

O'ROURKE: I think there's a lot of room for diversity in the church. But if we're going to say that being a Christian means something, then we do have to have some truths upon which we agree. I'd like to see us hard at that. When I say who's the church, I feel that very often the onus is put upon certain people in the church to do all the leadership and to do all the speaking. I think that laity, for example, would be much better spokespersons for many of the issues that we're talking about right now. Is the church doing enough? No, we are not doing enough. But where do we start? I think we have to start with things we agree upon and then proceed to those things which are going to be difficult to live. Christ and His followers have never asked that people be perfect but that they do adhere to what He taught.

BRUNGS: In closing this session I'd like to observe that our discussions on the technologies tend to look toward truth by itself as if it were sufficient in itself. But truth by itself is not sufficient. It has to be somehow or other connected to the good. Finally, I'd like to note that Christ did enjoin on us the command to be "perfect, as the heavenly Father is perfect." That might be worth reflecting on as we bring the day's work to an end.



Brother Dominic Dunn, FSC and Rev. Daniel Jungkuntz



Dr. Michael Alavanja and Dr. Jerry Chandler

## SESSION VI

HUTTON: I want to address the profound impact AIDS will have on the future. I shall mix facts and opinions. I'm not an expert; I am a concerned physician and a trained observer. I trained at the University of California in San Francisco in dermatology for four years, one of which was in clinical and laboratory virology. We were especially interested in the herpes virus then. AIDS started later, in about 1981. My contacts at the University have kept me informed of the development of that disease.

When I graduated from medical school, I could not have predicted a major scourge, an infectious disease comparable to the Black Death. I thought that, since science had a handle on everything, such a thing couldn't happen. It's happening.

Since the first cases popped up in San Francisco and New York, the incidence has doubled every year. We now have 30,000 cases of the acquired immunedeficiency syndrome (AIDS) which is basically a death sentence. This is the tip of the iceberg. Underneath that in the iceberg is ARC (the AIDS related complex). This involves people with something less than AIDS, but with a clinical expression of the disease. Underneath that, the bases of the pyramid, are the people that have been infected. Figures indicate that there's probably a million or a million and a half people infected with AIDS in the United States. We don't know how many will move up the pyramid to severe clinical disease or death. But there have been disturbing revelations. The virus in many cases is slow to show itself. A person can be infected for a long time before it causes problems. There may be a greater danger of becoming ill in the second five years of infection than in the first five. It is possible that everyone who's infected will have trouble sooner or later. If the infection were entirely contained right now, we'd still be facing a disaster.

New York and San Francisco are areas of highest concentration of infection. Estimates are that 50 to 70 percent of all gays in San Francisco are infected already. That figure is somewhat old, so it's probably more. If the hospitals are somewhere near 50 percent occupied by people with AIDS-related problems, and if the exponential rate continues -- there's no reason to believe it's going to abate soon -- we're looking at saturation of the facilities to take care of people who are dying from AIDS. If that is borne out, the rules will go by the wayside. Then we would have a triage situation, where the existing facilities are overwhelmed. Even hospices will be overwhelmed. So we would have to do the best we can.

Why is this virus such a menace? In going right to the cells that would allow the body to overcome the infection, it destroys the very system that can keep us from becoming ill from such a disease. The big problem is to find out how to solve that and then how to cure it. We can't target those cells with a chemical and kill them. If we did that, we'd wipe out the central immune system of the host. Either way we end with more problems. Vaccines don't tend to work well with this type of infection. It may turn out to be a combination of vaccines and chemotherapy, or something we don't even know about, that will be successful. The virus pretty well guarantees itself a continuing place because it's transmitted primarily by sex.

It was difficult even to get a handle on the problem in the first place. We have to credit science, even though things could have gone a little faster. It wouldn't have been possible

a few years back to find out the cause of such a disease in such a short period of time. Then also we have developed a test to find that someone was infected. We didn't get that until 1984 when it was applied primarily to screening the blood supply. I was looking at the figures which show that 15,000 infections may have been transmitted by blood. In the beginning many said that they didn't think it could be transmitted by blood. It certainly was. At least we have a handle on that and a way to stop further transfer in that manner.

There were some misconceptions on the part of the public and also of public health officials in the beginning which were significant. The cases seemed to concentrate among gays and drug users. This is a narrow group. It's easy to disapprove of them and to some degree ignore them. So there was, I believe some foot-dragging. But things changed. It became obvious that AIDS was being transferred by blood and it was showing up in "innocent" people -- hemophiliacs and babies of people who used drugs. Then the African experience which probably preceded our own, came to light. The problem started, very likely, in Africa, where there are now about 50,000 cases of AIDS. The significant difference in Africa is that it's not a "homosexual problem" there. The cases are equally divided among men and women. Therefore, we're suddenly faced with a new ball game here. It might happen to anybody. That's a profound realization.

Things are going to change. The only way we have now to stop the virus is to limit sex. Eliminating it in the blood supply is important and has been done. But if we don't want AIDS, don't catch the virus. It's just as simple as that. We've got to do whatever is necessary to avoid the virus. Abstinence may become fashionable. Limiting one's exposure may promote lasting, faithful, monogamous relationships. That's a logical reaction to the threat of death. It's clear that certain life styles have become death styles.

I mentioned the blood test. Right now there's debate about who should take the blood test. We need to track down the infection. The military is testing. All donated blood is tested. Who are the next mandatory people? It seems clear that we ought to test people who want to get married and people that want to have babies. Why have a baby if it's going to die? Insurance companies are already skittish about giving insurance to young males. They may ask for proof that you don't have AIDS. From a public health point, we're going to have to consider larger groups and broader testing procedures. What about individual rights?

What about the person who knows that he or she is infected and yet has sex without telling the partner? Is that exposing the partner to death? Can we construe that as killing someone? That raises the question of murder or manslaughter. Judges will be asked about this, if they haven't already been.

These are some of the things that are possible. Is this really a big deal? We've got heart problems, high blood pressure and strokes, heart attacks and cancer. But there's a real difference. We can't ignore this one because AIDS is still increasing exponentially. We don't know where the end of it is. It's hitting the younger, productive people. It produces a lingering disability and usually a slow death. Where is that money going to come from? The drugs being developed will be expensive.

As the number of the dying increases and the costs go up, we'll look to the molecular biologists for help. There will be a massive influx of money into research to solve this problem. We're on the edge of a remarkable advance in molecular biology, genetic engineering, and so on. I think a remarkable understanding will come out of the study of this disorder, which is so basic in the mechanisms of life. We will know more about genetics and immunology and infectious diseases.

KLAUS: I don't think the most important thing is what we'll learn about molecular biology. The most important thing that we'll have to learn is human behavior and the nature of the person. As you said, the only way to deal with this is on the level of behavior. I vigorously assert that sexual expression is under voluntary control. It's high time that like the British, we address behavior, not just keep on looking for vaccines and for better condoms. That's just undoing the outcome. That's important, but we do have responsibility. We do have free will and it doesn't stop at the level of sexual expression. That's a modern heresy. The British medical journals started talking about behavior two years ago.

O'ROURKE: How do you react, Dr. Hutton, to the advice to use condoms?

HUTTON: We think condoms will help. A dermatologist friend did some very simple research on this. He used various types of available condoms and put the AIDS virus inside them. He then mechanically manipulated it in a tissue culture to see if the virus would penetrate. AIDS virus does not go through. We at least know that much. But, as he says, condoms don't prevent pregnancy all the time and they're not going to prevent AIDS either. It's probably better than nothing, but it's no guarantee.

SATTLER: You speak of transmission by heterosexuals as well as homosexuals. Is there something specific about extravaginal heterosexuality? Is the African experience a heterosexual sodomy, or is that known? (HUTTON: I don't know.) My suspicion is that sodomy (heterosexual as well as homosexual) is more liable to lead to the mixture of blood with semen.

KLAUS: Isn't semen immunosuppressive? At least my immunological friends tell me that and they feel that the reason this thing got started, that semen, particularly in the rectal (ampullar) is immunosuppressive and, therefore, the virus was able to get going.

HUTTON: I don't know. I think there are no hard facts on this.

KEEFE: Hannah referred to the British approach as directed to behavior rather than to the search for remedies. A recent issue of I believe it's Crisis Magazine drew the parallel between the approach to lung cancer from smoking cigarettes in public places and the approach that we have to homosexual sodomitic conduct. Our approach to smoking cigarettes in public places is clearly behavior-directed. We're not looking for remedies specific to lung cancer caused by tobacco; rather we're trying to suppress the use of tobacco. This was pointed up as parallel by saying the condom is to AIDS as the filter tipped cigarette is to lung cancer. Would you comment on that?

HUTTON: From an epidemiologic point of view, the transmission of disease, the condom would be more effective. Condoms are probably over 90 percent effective in preventing pregnancy, if we're talking about ordinary intercourse.

KEEFE: Of course, we're not, are we?

HUTTON: If we're offering this to people who practice ordinary intercourse, yes.

KEEFE: Of course, we're not doing that, are we? The comments aren't directed in this case to people who are practicing ordinary intercourse. So those statistics don't serve us, it would seem. The statistics that you cited as 10 percent have nothing to do with sodomitic intercourse, right?

HUTTON: Yes, of course. I was talking about a 90 percent in terms of pregnancy. So I think it's probably better than a filter tip.

KLAUS: The sperm are an awful lot larger than the virus, aren't they?

HUTTON: Oh, a great deal. But there is work showing that the virus does not pass through such a membrane, if that's what you meant.

KLAUS: I understand. I'm thinking of how many times condoms are not worn properly or the technique is not proper.

MOREY: I sat on a committee for about a year that met periodically in San Francisco. There was an ethicist on it. I was on it because of the economic ramifications of AIDS from an insuring point of view. The chiefs of staff of four or five of the hospitals were on it, plus three or four gay physicians who were representative of the gay community. The question came up initially, about a year or a year and a half into the disease, about modifying the promiscuous behavior of the gay population. The AIDS problem then was confined almost exclusively to the gay population so far as they knew. Specifically they wanted to close the baths. They estimated approximately a third of the gays in the San Francisco area (estimated to number about 85,000 out of a population of 750,000 in the city and county of San Francisco,) used these baths with some frequency. Homosexual contacts were very frequent, anywhere from 30 to 150 contacts in a month. They had studied this. Their idea was that, if they could close the baths, they would reduce the promiscuity, reduce the number of contacts, and therefore reduce the potential for transmission of the disease.

The gay community is totally integrated in the society of San Francisco. Gays are in every profession. It's an open and accepted "alternative life-style." The gay community was very sensitive about closing the baths. The gay physicians who represented them considered it to be an infringement on the individual rights of consenting adults in private.

The heterosexual physician community in San Francisco, until AIDS began to creep into the heterosexual population, considered it to be "their problem." They began to find out, over a

period of 12-18 months, that AIDS was creeping into the heterosexual population. They concluded that the traditional approach, namely, using trace studies to determine contacts and trace the disease to other people who might be exposed, was no longer effective. They saw that it was silly to do trace studies when 50 percent of the gay population was already seropositive. The CDC (Centers for Disease Control) representative at that time said, "We've lost the ball game. This phase is over. The chapter is closed."

It was only after those three things happened that there was a willingness to consider significant behavior modification. Necessity is the mother of invention. They were tardy in approaching the behavior modification as the one positive means to ameliorate the disease. But, when they did move in this direction, they moved very dramatically. This is very much to their credit. In fact, the gay population has drastically modified its behavior in San Francisco. The baths by and large, have been closed. Fear is creating this behavior modification.

KLAUS: I am aware of the history of homosexuality taken off the ICD-9 list of perversions and I know something of the history of the gays in the psychiatric community who brought this about. It was a very cleverly engineered political move. That, however, doesn't make homosexuality an "alternative lifestyle" because it does not lead to life. It's already being called a deathstyle. We are dealing, I think, with something which is an arrested psychosexual development. No matter how enshrined it becomes as a civil right, there is such a thing as an external reality. The fear of death is suddenly bringing that back.

CHANDLER: I don't find filter tips and condoms a good analogy in terms of prevention. We do see the mechanism of cancer induction -- they are still very vague -- involving a sequence of processes. There are various defense mechanisms against various steps in the sequence. This, initially, is a totally chemical level of behavior. The viral problem is at the biological level of behavior. Once the virus can start multiplying, it then goes into some sort of logarithmic growth. This is at the biological level, logarithmic growth within the organ. There is a difference between the chemical processes of carcinogenesis. Therefore I do not find this to be a very solid analogy.

KEEFE: It was obviously proposed ironically, and I would suppose its force would be a fortiori. The approach to the promiscuous smoking of tobacco is forthright: moralistic and condemnatory. If you really want to be public enemy number one anywhere, light up a cigar. However, the danger you pose to the community is relatively minor. The statistical evidence for apparent cancer from other people's tobacco usage is I think, minimal. The statistical evidence for the infection of the blood supply of the nation from homosexual misconduct is clearer. The moral posture vis-a-vis tobacco usage and the moral posture vis-a-vis homosexual promiscuity or promiscuity in general is an interesting study in attitudes. I think it's well to point this out for clarity, because our own Surgeon General is a most vivid example.

BLACKMAR: I don't see why the two things need to be discussed together. I'm aware of your discussion of the paper. I am a very intolerant ex-smoker. Possibly the risk

of cancer transmission by blowing smoke around is minimal, but I hate to have smoke blown around in confined spaces where I am. Why not let those who are disturbed by smoke do their thing and give attention to the very real problem of AIDS transmission.

I think that people are going to be scared as they can be of promiscuous intercourse, heterosexual and homosexual. I have no doubt that many people will forgo things that they would otherwise do. That's fine. Then there are some who will not. I am not at all persuaded that the use of condoms promotes or condones promiscuity. It recognizes that certain people will be promiscuous. The message of abstinence should be perfectly well delivered to people of normal intelligence.

DOOLAN: None of us can predict where the problem is going to go. The CDC (Center for Disease Control) is expanding the criteria and will probably incorporate ARC into AIDS. But the data tabulated by health departments is based on AIDS. As was explained, we don't know what size of the pie we're talking about. We don't know the absolute conversion ratios we've gotten. There are different predictions on it and on how long it will take. Take the predictions for 1991 -- is it going to cost $6 billion or is it going to cost $18 billion? We're stuck with a certain level of uncertainty.

I'm sort of copping out in hoping that they come up with a vaccine. Otherwise, the problems become absolutely overwhelming to me. We have geopolitics, the international monetary fund, civil liberties, civil rights and civil wrongs encumbered with a superstructure that's very hard to get at. I will exemplify that by the following: The influenza epidemic in 1918-20 killed 20 million people. I don't know whether AIDS is going to kill 20 million people. I don't know whether the virus is going to go endemic. I would hope that we come up with something that will arrest the virus.

I get bawled out by the priests in my area when I say that it's grossly unfair that the Catholic position be pinched to the viewpoint of an obsession with condoms. Historically plagues have had a very, very important part in civilization. Some people think that Christianity succeeded because of plagues. The churches have had a very good record in taking care of people. They've had a lousy record in preventive medicine. The mullahs and the high priests have led the people into the cholera-filled waters. The church has every right to talk about sex education. That's responsible education, but the obsession with condoms, I think, doesn't do the church any good.

KLAUS: In which way do you see this obsession with condoms going?

DOOLAN: Hannah, I beg to differ with you, but I subscribe to London newspapers. Judging by them, everybody's talking about condoms in England. It's on BBC, it's on public television.

KLAUS: They may, but do you also read the British Medical Journal? That's my source.

DOOLAN: Well, I don't know. How many people in England read the BMJ or the Lancet versus the London Times?

KLAUS: I was speaking from the point of view of the professional leadership.

DOOLAN: Well, they're not the professional leadership any more than we doctors are the professional leadership. The leadership is down in the Congress and in a lot of other places.

SATTLER: We have talked about the impact of science and the technology, particularly the medical technology. We have mentioned the legal profession and a little bit on morals. But this is supposed to be an encounter of science and technology with theology. I haven't heard much so far on this.

How can we talk about, for example, genetic manipulation without even referring back to the recent Vatican Instruction and its philosophical and theological positions? It's particularly a concern of mine when I think in terms of, for example, the judge's statement on the Whitehead baby (Baby M). That was 121 pages of reasoning which doesn't get into real law. It would take me a long time to read it. Yet the 40 pages of a doctrinal presentation on the inviolability of the human person and of fundamental sexuality has not even been referred to. We're going to experience more and more raw judicial power as we have fewer fundamental principles of decency. We'll experience more and more arbitrary practice of medicine as we maintain fewer principles.

BLACKMAR: I'm interested in knowing why you say the judge didn't have any real law.

SATTLER: He said it. He said, "I'm looking for guidance from law." And then he made his decision without the guidance. That's what he said.

BLACKMAR: Well, isn't that what any judge is confronted with when you don't have guidance in books?

SATTLER: When you don't have guidance in the books and if you're strictly legal, that's right. I'm asking about the theological or philosophical orientation of fundamental decencies without which we cannot operate under any circumstance. If our fundamental decency between homosexuality and monogamous heterosexuality is merely an "alternative lifestyle," then we're going to proliferate lawyers and judges and endless decision-making to the level that nobody's even going to be able to read the stuff.

DOOLAN: I started off with a doctor's bias, namely, that this is a sexually transmitted epidemic. You do tracking and try to get as good a data base as you can, to get some kind of feel for the nature of the problem and to make predictions. The difficulties you run into are the civil difficulties. You face harangues even about asking the patient

whether or not you can test his or her blood. The only ones whose blood you can test are the high risk groups. You can't do any kinds of checking. This disturbs me as a doctor. Three months after the diagnosis of AIDS, we had a black woman die. She was not a prostitute but she was married to a drug addict. Her child is in the process of dying. They are innocent victims. From my point of view, we ought to be able to do blood testing to find out what dimensions there are. But we can't do that.

SATTLER: The point here, however, is that this is a matter of legal and judicial yes-and-no, where there are disagreements on all kinds of levels. We are still not talking about the fundamental decencies of human respect.

SALIWANCHIK: I think both of you are right. It's a matter of what sequence do we do these things. The problem is already so large that trying to change behavioral patterns or talking about how you should avoid sex or transmission is not going to solve the problem in the immediate future, or even for the next five or ten years. We're going to need some medical help from the molecular biologists. The vaccine idea is very practical and people are working on it very seriously with some very good leads. This is on the horizon. In the long term there has to be a realignment of thinking about how we conduct our lives. Medicine is not going to be able to solve all the problems as we go down the road. This is a good example of that.

DOOLAN: I would love to hear the theologians address this. I do not set myself up as the moral spokesman. That's not my job. But we in the church have every right to talk about moral imperatives as well as biologic imperatives. Some of the explicit literature is disgusting. I've had women call up the health department and ask what rimming and fisting is. Why do we have to be submitted to this level of perversion and be told that we've got a free and open society and we're all adult? I don't agree with that.

I'd like to hear priests and theologians occasionally mention the word "continence". There are those of us who like Humanae Vitae and consider ourselves cultural aardvarks. But I can assure you that the world is not going to go celibate. So, if I heard the word "continence" occasionally, suggesting a sense of responsibility, I'd feel a lot better.

SATTLER: I've referred to that in terms of theological background. The reason for continence is a basic respect for the human inviolability of aliveness and the human inviolability of the essential sexuality which belongs to being an embodied person. If we don't get that clear, we can't talk about continence. Then it's a mere no-no. We keep complaining that we're not saying anything positive. Here's something positive and we haven't really addressed it up to this point.

BRUNGS: We can blame society for a lot of things, because it's responsible for a lot of things. But on a radio talk-show about 3 weeks ago on the Vatican document almost everybody who called in and identified themselves as non-Catholics were in agreement with the document. Almost everybody who called in identifying themselves as Catholics were in opposition. This suggests that we have had a massive failure of leadership in the church for at least 30 years. By leadership I mean the bishops, theologians, teachers

and ecclesiastical opinion-makers.

The Pope has been speaking to this in his audiences week in and week out for years. He's given a very positive theological understanding of our bodiedness. I am not aware that it has been officially promulgated by the body of bishops. The theologians have not picked it up. The teachers in Catholic institutions have not picked it up. The parish priest does not talk about it in his sermons. And the Catholic press hardly reports on it. This is what I mean by leadership. The whole teaching element in the church has failed to provide Catholics with an understanding of their sexuality, of their bodiedness, and its place in God's design. We have to blame ourselves for this state of affairs.

SATTLER: This is why I'm bringing this up in terms of this particular situation. We are at the end of our second full day and we've hardly brought it to the fore.

BRUNGS: I agree with you and I was going to begin the next session with some remarks. This might be a place to do it and we can continue it in the next session. I am very surprised that we have hardly referred to in vitro fertilization at all. If you'll pardon the pun, I think in vitro fertilization is probably the most pregnant technology the human race has ever come up with. It involves much more than providing an infertile couple with a child. For the first time in human history the necessity of sexual intercourse for procreation is gone. We now have another way of doing this. This is an enormous watershed in human history. It is changing the meaning of one very important aspect of human life. Up to this point, whether it was done in violence or done in love, sexual intercourse was the only way a child was born. That's no longer true. The possibility of procreation becoming simply reproduction is now present. With IVF, a woman could be in Melbourne, Australia and a man in Greenland while the gametes were brought together in Geneva. We can talk about a "love-intention" but there's certainly no loving act involved. I don't think the technician is in love with the pipettes, at least I hope not.

We had the case of the Rios, if you recall. A wealthy couple who died intestate had some frozen embryos left over in a hospital in Australia. Should those embryos be put into a surrogate mother so that the heirs would be born, or should the state get the money? It was probably a foregone conclusion how that would work out. But it's a very interesting case, isn't it? Twenty years after the death of the parents, they could have a child. In what sense is that child the result of any of their activity? Hardly any.

This is as significant a technology as the human race has ever developed and it says an awful lot about our humanity if we go into it. It's been discussed primarily at the sentimental level of this poor childless couple, but it's much more than that -- much, much more than that.

I don't think that we can really get into questions of biotechnology, law, theology, philosophy, public policy, or public principles or public assumptions (or whatever we want to call that) without considering IVF. It is essential if we are going to do recombinant DNA tinkering on humans in the lab. I presume we will do that. This is a necessary vehicle. The wedding of the reproductive technologies and the recombinant DNA technologies will rely on in vitro fertilization. If we ever decide as a people to go into a eugenic program, in vitro fertilization

is a necessary component. All these things reside in that issue.

BLACKMAR: Of course, the technology exists and I'm sure that it's been fairly predictable ever since developments in animal reproduction where the sole objective is to get the best beef cattle. The technology will not go away. It does not seem to exist on a large scale. I can see possible problems in people who have reports on "Brave New World" and things like that, but we're not going to be able to wipe the knowledge out that has produced this technology. Nor how it is used, that is within the control. I can't see that it is going to be widespread for the foreseeable future. Unlike AIDS, it will not spread exponentially of its own force.

BRUNGS: It's one thing to say that the technology is here and another thing to say since it's here, we don't have to look at its consequences.

BLACKMAR: I didn't say that.

BRUNGS: No, but such an inference could be drawn. Perhaps you didn't say it and I made the inference. If so, excuse me. But it's very important for us to look at the effect of this technology on society, on our understanding of ourselves, because it is here. Nuclear power is here too and that will never be put back in the bottle. It can't be, unless we burn all the books and kill anybody who knows anything about it. The knowledge is here. The question is what we'll do with that knowledge. How are we going to fit this into our society? It's not enough to say, "It's here. Therefore, we won't worry about it. There's nothing we can do about it." It's very important to understand what it means. Perhaps then our society can cope with it. But I assert that it's very important to look at the ramifications of a technology as potent as IVF.

BLACKMAR: I suppose you could cook up a scanario of a young couple of moderate abilities and attainments. They get married and they think about raising a family. Speaking amorally, we could suggest that they produce superior children instead of a set of mediocre children like themselves. That would be a possible scenario. They'll be all the same except that we'll arrange a kind of an implantation in which we will give them a much better chance of having a superior child.

BRUNGS: That's the notion behind the Nobel laureate sperm bank.

BLACKMAR: Yes. Somehow I don't see that happening. For one thing, maybe we don't want too many geniuses.

BRUNGS: Well, it's interesting. Since we're at the end of the session, let me tell a story that I know some of you have heard already. I don't know whether it's apochryphal or not. Early in the century George Bernard Shaw was at a dinner party and Isadora Duncan, the dancer, who was big into eugenics in those days, was also invited. Miss Duncan is said to have approached Shaw, evidently not a 'fine broth of a man' and said: "Oh, Mr. Shaw, we must mate. Just think of the child with my beauty and your wit!" Shaw was

supposed to have responded: "Madam, I'm thinking of the child with my beauty and your wit!"

Let's leave that at least temporarily, as a sort of parable on the ambivalence of IVF and other new biotechnologies.

HARMAN: The technology is here to create life and to carry out the manipulations. That's not fantasy. It scares me when I hear of people who are willing to abort because the baby is the "wrong" sex. People want to get rid of obesity and hypertension or whatever other characteristics they might come up with. I think the public potentially will sanction things like this. We've got the technology. That's not fantasy. That's not Buck Rogers. It will come. Until we deal with some of the basic principles of life, I think that will be a major issue. Look at the current discussion on what life is and when it starts. If we as a society say, "Oh, that's just an embryo and we can putz around with it while it's still at that stage," then we're talking heavy duty changes in our lifetime.

KLAUS: I agree. May I just throw in one thing, because some of us have to leave before the next session. You're absolutely right. Another aspect of it is this: The people who will be carrying out these procedures will be drawn by economic and professional promotion and gain. Let me ask what the real goal of human existence is. Is it personal promotion? is it making money? or is it to create a family where love and commitment and life can be fostered? Which is more important: one's career, one's economic advancement, or one's personal advancement which can only happen in the context of a family where a person can be totally vulnerable, where one can be accepted? I think that the Pope's encyclical, Familiaris Consortio, is important in this, in the remainder of the discussion.

HURLEY: Some of the doctors have gone and it may be too late for this question: how did AIDS get started in the first place? Was it a gene mutation? What happened that all of a sudden AIDS comes into the picture? Even if we get a vaccine or a cure, how long would it last? In venereal diseases in general there are resistant strains which are still spreading. One of the chief public health doctors in San Francisco told me that the venereal disease situation is far worse than it was, even though they have a cure. Malaria, on another level, is a further example. Seven or eight years ago I used to be able to get a pill from the airport doctors, a pill they gave to pilots and stewardesses. Three or four years ago I was told by the same doctors that I had to take a second malaria pill with me. In Thailand I was congratulated because my doctor was up-to-date enough to know I needed two pills. Last year I found out that the second malaria pill has bad side effects, like death. I was told to take that second pill only if I was caught in a malaria epidemic. Researchers are now working on a third pill because the second one, as strong as it is, is no longer enough.

I'm asking how something like AIDS gets started. Even if we get a vaccine, what are we going to do?

DOOLAN: It's been traced to the green monkeys in Africa. Green monkeys are eaten for food by some people. They're used as pets. Dr. Robert Gallo claims that monkeys don't like to be eaten, sometimes don't like to be pets and so they bite. That's as far as he can go. How it mutated or how it became so virulent, he doesn't know. Africa seems to be the generally accepted site of origin for it. I don't know how long the virus has been there.

Let me point out clearly that a vaccine is not a cure. A vaccine prevents you from getting it. One of the things that we have omitted here is that there presumably is another whole category of patients who have dementia and not "the other clinical symptoms of AIDS." But they are AIDS patients. That can be an additional and frightening component to this problem. Promiscuous sexuality is a factor in the spread of AIDS. If a person had had a venereal disease, he is more likely to have the AIDS virus in his semen. If you've had a venereal disease, you've had an inflammation and you've got macrophages; and the virus is in the macrophages. So as Dr. Gallo says, that is truly a loaded gun. If you previously had a male venereal disease, you'll get a higher concentration of the AIDS virus because of the macrophages.

BRUNGS: I wanted to ask Bob Hutton while he was still here, about an article I recall which said that there's a mutant strain of AIDS, not detected by our standard blood screening processes. I haven't seen a follow-up on that.

DOOLAN: There's an incredible number of overlaps. We're talking about HTLV-3. HTLV-1 was a leukemia virus. HTLV-2 was another leukemia type virus. HTLV-3 is the AIDS virus. The complexity of the situation is such that those first two viruses proliferate cells. The third one knocks off your T cells. It's quite incredible. The additional complexity of the issue resides in the fact that you get antigenic shift and you have multiple strains of the virus. If you test for strains serially in a given patient, you can see different strains. There are antibodies to some of the strains, which unfortunately do not neutralize

antibodies for some other strains. People working in this field show these trees. The tree is dissecting and dessecting and branching and branching. Which strain you might have at the moment can be different. That's part of the complexity. The whole prospect of having a proven vaccine is a big thing even to contemplate. It's an enormous problem.

SALIWANCHIK: There's apparently at least five major variants in the HTLV-3 virus. They can identify almost precisely which areas of the world in which a variant existed. In other words, there's one in Africa. There may be one in New York. There's one in San Francisco. So you can conceive of a vaccine which may not be able to eradicate or neutralize all these particular antigens, but which would be effective in a given area. For the immediate future we're going to see a selective vaccine.

It is true that certain gonorrhea organisms are resistant to some of the traditional antibiotics. But researchers have found other antibiotics that are able to handle some of the resistant microorganisms. Still, it's always going to be a problem, because these things will mutate and perhaps be more virulent or not as virulent. It can go either way. Eventually in molecular biology they're going to try to find a common denominator for all of these virulents. The researchers think it is possible Then we could have a vaccine that could at least suppress.

DOOLAN: Let me make two additional prejudicial points. Point one: I've likened AIDS to the Manhattan Project. I don't know of anything in my 40 years as a doctor in which there has been the concurrence of both top rank media attention (global concern and fright) and a scientific capability to address the problem. The evolution of knowledge in AIDS is the most rapid and most incredible phenomenon I've experienced in medicine. There is the epidemiologic work that's been done, the tracing from Africa through Portugal through Japan. The work has been absolutely incredible. The coding and the sequencing that's been done is incredible. There's hardly an issue of Science that doesn't have something about AIDS in it. This has been the fastest evolution of knowledge that I've seen. Two: apparently the agreement has been made that the library for the sequencing of the viruses is going to be maintained at Los Alamos. That was in Science a couple of weeks ago. The sequencing that's being done in this will be maintained on the computer in Los Alamos.

SALIWANCHIK: You mean so they can match up the exact homology? By doing that, then they may find the common denominator among all these strains.

FITZGERALD: The questions that have been raised about the scientific knowledge, the legal morass, the search for principles and that sort of thing, may indicate a unique historical situation. What is the extent of pluralism within which this particular problem, and also all the other ones that we face, exist? That pluralism is especially significant in this country, because of the vast diversity in religious beliefs, in philosophically implicit or explicit systems, in scientific knowledge and even in scientific method and content. I find it difficult to think of principles that might be applicable and meaningful across that broad spectrum.

There is a point that we've mentioned on and off, but haven't really stressed. It has

traditionally been our strong point in the church but is not something that attracts much press coverage, namely, compassionate pastoral care. A significant part of Humanae Vitae which always gets forgotten is pastoral care. People argue over Pope Paul's philosophical and theological positions. But toward the end of the encyclical there is a strong emphasis on compassionate pastoral care.

Perhaps one of the ways of helping bridge all the various perspectives, which are coming together toward this problem, is to remember this concrete approach that we can take in whatever we're doing. Maybe we can find a few principles that will be generally acceptable to everyone. For instance, we can promote fidelity, especially in view of the AIDS problem. As Bob Hutton suggested, that was probably not a high priority in the gay population in San Francisco. But with the advent of AIDS it has become more of a priority. The value, albeit by a rather tragic path, has suddenly come back to light.

I'm not sure this is the forum where we could work out any concrete particulars. If, however, we all go back to whatever we do, remembering a compassionate pastoral approach, we may have found one way in which we can make a significant contribution.

BRUNGS: I agree, Kevin. Compassion is, as it's always been, a true mark of real Christianity. But, if I may, I'd like to shift the emphasis somewhat. Inside the church as well as in the culture we seem to be stressing more and more "how" rather than "what". This is seen in theology in the emphasis on hermeneutics over doctrine and in philosophy in the emphasis on epistemology over metaphysics. It's seen in an enormous number of phases of our lives. "How-to" books clutter the best-seller lists. How do we believe? Is how we believe more important than what we believe? I personally don't think so. Is what I know more important than how I know? My own biases are in favor of the metaphysics over the epistemology. This is an important aspect of where we are.

After last evening's session, Dave Byers made a point, more as a question than an answer. I'll mention it now. Do you think that our becoming less affluent will either force some kind of public consensus or will it result in total social disintegration? We will become less affluent. The process is already in motion. The Japanese are already taking away our markets. They will probably have this same problem in about 40 years. But the question is this: is our affluence the only thing that's holding us together as a people? I don't know whether it is or whether it isn't. But it's an interesting aspect to the question.

KEEFE: I do think that we have raised the problem which is once again pressing in an acute context. Take a simple thing like the allocation of resources in the face of the evidently exponential increase of AIDS victims. This is going to force the issue upon a community which is no longer going to be able to suppose it has an indefinitely deep pocket. Precisely how are we going to be able to allocate resources for this most pressing difficulty, regardless of its origin? Questions are going to be proposed at the level of politics which are going to have the most profound theological and confessional significance.

If the church, as has been suggested, is not very good on dealing with the prevention of these difficulties, it may very well fall into its traditional function of dealing with those for

whom a society can no longer afford to care. It would be perhaps interesting to put this whole context in a somewhat futuristic basis. I was informed yesterday by Bob Morey that the medical bill for the nation annually is some $400 billion. Supposing that to be accurate, the present bill posed by the AIDS problems is not yet numerically significant. It's fairly clear, however, that, if the problem continues to proliferate as it gives every indication of doing, it will not be very long before the amount of money spent on AIDS is going seriously to decrease the amount of money available for other medical purposes. The mere taking-up of hospital beds is going to become very much a problem.

What should the Judeo-Christian community -- Catholic, Protestant and Jewish who hold to the necessity of giving succor to the indigent, to the helpless -- what should we do under these circumstances? The problem is in front of us and it's most emphatically a religious difficulty. It may well be that the unity that the mere loss of affluence might force upon us will be much enhanced by that increasing lack of resources being aggravated by increasing responsibilities. What is the responsibility of the Christian community under these circumstances? We can't use triage very well. This is just a word that doesn't solve anything. What does one do under these circumstances?

We have a national defense of an astronomical sort. Is this difficulty which appears to be international something that will make national defense appear trivial by contrast? The lethality of AIDS a decade or two down the road may well approximate that which we associate with nuclear warfare. What is the appropriate response?

Perhaps we have, in the fascination with the details posed by such problems lost sight of the major problem. Given the inevitability of the progress of this disease, in the face of the scientific knowledge we have at the moment, there ought to be some sort of anticipation of the enormity of the social, economic, cultural problems that confront us. I think that this is worthy of examination over the next few minutes that remain to us.

BRUNGS: One straw in the wind: the Veterans Administration, I understand, has allocated $40 million for AIDS research which will not be replaced. That's $40 million out of the care budget for the Veterans Administration.

O'ROURKE: Much of the original money for research came from the American Indian health program.

MOREY: The upcoming federal budget will likely call for $350-400 million for this AIDS effort. The physician who is leading the charge for the federal government on the AIDS issue, working with the Surgeon General, is saying that we need right now an allocation of a billion and a half. The city and county of San Francisco is finally recognizing that this disease is going to bankrupt the city. They're already moving very rapidly to get state and federal funding to bridge the gap of the medical costs of taking care of the disease. It is estimated that in 1991 there will be 50,000 cases of AIDS in the state of California, 20,000 in the city of San Francisco. So you have an estimate of 20,000 AIDS victims in San Francisco in a population of 750,000. You've got another 30,000 for the rest

of California, with a population estimated to be about 24 million in 1991. If one is not careful, he or she could panic. Also, how much money can you throw at a problem before you saturate it? After a certain point, we don't buy much additional information in terms of the research effort.

DOOLAN: This president was elected on balancing the budget. Whether you agree with him or not, a major disaster facing the nation is the size of the national debt. Somebody's going to have to do something about the national debt. That's something in the background that we can't undo.

Dr. Gallo's lab has no more people in it now than it had ten years ago. The Institute of Medicine recommended that the government appropriate $2 billion -- $1 billion for basic research, $1 billion for education. My only source in the research is Bob Gallo's office. He maintains, as Bob Morey just said, that, if he gets $100 million tomorrow, he's still going to have to find the properly qualified scientists. There's not that many of them around to do this kind of work. That's part of the problem.

MOREY: I think that in vitro fertilization and the principles, which may or may not come forth to guide that technology, are both very important. Whether we're talking about in vitro fertilization or about the principles of the medical profession or the principles of the scientists, I think that, if there's a synthesis in what I've heard here, it has something to do with what happens in the process of providing a set of guidelines around the whole process of science. Whether we're talking about finding a cure for AIDS or we're talking about in vitro fertilization or whatever, that seems to be the synthesis of the dilemma that we all talk around. I agree with Fr. Sattler. We've talked a lot on the scientific side and very little on the theological side.

HARMON: I came here to discuss biotechnology and the law and we have done that at various sundry points. I do believe that mankind is on the brink of an odyssey. We have never ever come close to changing our world as much as we're about to do. The animal and plant technology (biotechnology) and our medical technology right now hinges only on personal private ethics.

We're talking about affecting future generations, creating new life forms, and manipulating existing human life forms. That puts us at a very pivotal point in our history. Scientists have made a great distinction between somatic therapy and germ-line therapy. They have tried very hard to say: "Look, we will not address the issues of the germ-line. That affects future generations."

At the Institute of Medicine's annual meeting a couple months ago, a surgeon from Pittsburgh had as his topic transplant versus gene therapy. He listened to all the ethicists and so forth and then he said: "I have a problem because it's not an alternative. I've got a child with brittle diabetes. Typically that child would not procreate. They wouldn't feel well enough. They would be counseled against it. They probably wouldn't be alive to procreate and they would not pass that disease on to the next generation. I go in and I do a pancreas

transplant when they're 12 years old. They survive. They reach the age of procreation and they want to have a child and they do. We have not changed that person's basic chromosomal make-up and so we have potentially passed a disease on to the next generation that we wouldn't have without the technology of surgery, let alone some of the gene therapy".

Coupled with that is the capacity to do in vitro fertilization to create many embryos with which the scientists can work. That will place all of us in some strenuous philosophical discussions in the future. I hope that the people here will be involved in the process. From a theological and sociological basis, we're at a new point in our human development.

DOOLAN: Bob, did you say something about learning versus believing or what your beliefs were?

BRUNGS: I said that the stress in theology now tends to be more on how we believe rather than what we believe.

DOOLAN: Is your faith really hope?

BRUNGS: Faith, hope, and charity have to live together. I don't see how they can live separately. Truth that is not connected with goodness is sterile. Goodness can be founded only in truth. They have to live together. I have no problem with methodology as such. I have a problem with an overemphasis on methodology at the expense of understanding the content. I feel that we're more concerned with how we do something than with what we do. We seriously need a development of doctrine in the face of new information and of new demands. Doctrine develops primarily in the face of controversy. But the present stress is on ethics. How are we going to behave? How we're going to behave ultimately rests on what we believe. We ought to be working harder on what we believe.

DOOLAN: I'm addicted to biochemistry and I'm addicted to modern science. In the era of immortalized cells, it's very hard for me to even conceive of a soul as a living principle. I'd like to see the church upgrade its doctrine in terms of everyday realities. If anybody thinks they're not going to create life in a test tube at some point along the line, he's crazy. They'll get a living form. They don't bother calling it living. Scientists don't worry about that, but they'll get a physiology that gets together one way or another. It will be a reproducing cell. The church ought to address some of those issues.

BRUNGS: I agree. We sponsored a meeting three or four years ago on the positive contributions of science to Christian understanding. What has science drawn from nature that ought to be part of our theological patrimony? I spent a full year trying without success to get a Catholic theologian to address this. Many of the theologians working in this area are a generation out of date. We're dealing with the 'physics' of living systems in the life sciences. The notion of the unity of all living systems at the level of the amino acids is a powerful lesson in the unity of God's creation. That ought to be incorporated into Christian thought. This is a hymn of praise to the triune God that we ought to be incorporating into our intellectual patrimony. We haven't done that well.

In our meetings, we concentrate almost automatically on problems. If I were a Cardinal working in Rome, and reading proceedings such as ours, I guess my final reaction would be: "All I ever hear about are problems. This science must be really troublesome." We don't take the time to incorporate into our theological understanding of creation the enormous amount of discovery that's gone on, particulary in the last 50 years. That effort ought to be there. It's not an easy job, but we have to start somewhere. There are very few people interested in what I see as the most significant aspect of theological advance.

CHANDLER: Let me try a personal summary. I come at this most immediately from some 12 years with the federal government. In that time I've been involved with health-related issues in terms of protecting the population from harm. The three basic laws are: 1) Occupational Safety and Health Act which is stated in very general terms "no worker should endure harm at the work place"; 2) the Food and Drug Acts charged with protecting the population from harm; 3) the Environmental protection Agency where I've served as a consultant at various times. I have a hopeful view of biotechnology and the law, just dealing with those three.

It's very clear that the methodology that is in place and is established by these laws is relatively open. It's not a closed system. The generality of the laws are expressed in terms of "thou shalt not harm." The specific applications to each particular problem is wide open. Anyone in this room can influence it. Announcements are published in the Federal Register. Most of biotechnology will fall under one of these three sets of laws. The methodology, the regulation of biotechnology, is in place. Insofar as we have not addressed this methodology -- and how the christian community could interact within it -- we've been tilting at windmills.

The system is there to influence. The public policy that grows in this country is influenced by people such as myself and other people in the academic world. It's open to influence. The methods are there. The mechanisms are there. It's up to us to use them however we can. In that sense I feel a little emptiness about the course of discussions here. If we want to influence public policy that is being made today, and which will be made over the next five years, we have to do it explicitly and not theoretically. The country won't wait for us to get our acts together.

DOOLAN: We have to sit down and write long, thoughtful letters. I composed my long, thoughtful letter last night to Lowell Weicker on behalf of French Anderson. The whole review mechanism I thought was splendid. Are you talking about us as some kind of constituency or drawing up a formal position on something, Jerry?

CHANDLER: I have no concrete agenda in mind. I know what I intend to do and how I intend to contact my congressman and my colleagues. The critical point of a public-policy perception is that policy makers cannot consider opinions they do not know about and that they do not receive. The Federal Register system -- I presume most people here are aware of it at some level or another -- is an open mechanism. I've spent many an hour and many a week going through comments submitted by the general public in support of specific policy positions. It's a major chore to try and reconcile all the various information you get

from various groups about how they want to see a given policy run. Put the input in if you wish. The bureaucracy will try and reconcile only that information that it receives. If it's not received, you don't have to worry about it.

BRUNGS: Your point's well taken, Jerry.

HURLEY: I'd like to say the same thing about the church. At all levels they can be influenced, but they hear very little. Fr. Brungs has been a champion in this for years. I don't think he will say he was as successful as he would like to be, nor was I. But there are many things that are in place if we want to use them.

First, the Vatican Council voted it virtually unanimously that there was to be approved sex education for children. Yet, when you read the literature and what goes on in the public press, you'd think that the church was against sex education.

Second, we've had some very disappointing experiences, even at the Vatican level. Fr. Brungs and I were together on the Secretariat for Nonbelievers. I'm returning to that Secretariat tomorrow. We argued at great length to include under the aegis of the Secretariat for Non-believers the relationship with science and scientists. We were successful enough to be able to start in the U.S. Bishops' Conference a standing Committee on Science, Technology, and Human Values. We got it operating, but it was sabotaged in the Bishops Conference by some bishops. We were undermined, even though it was approved unanimously from the floor. Cardinal Baum introduced the resolution which passed over the direct objections of some very high ecclesiastics. They have fought it ever since.

Then for six years the Committee had, as moderators, two bishops who did absolutely nothing. I suspect they were told to do nothing. I have been in the middle of this battle and have been severely castigated by my "superiors." The present chairman of the Committee, Archbishop Hickey of Washington, has revived the committee. The Committee is in place again, holding meetings, inviting scientists in, and so forth. So that exists.

Fr. Brungs and I were successful in Rome. Our object was to get a serious consideration of science into the Secretariat for Nonbelievers, not because scientists are necessarily non-believers, but because the chance was there to get this consideration into Vatican proceedings. The first time, we were allowed a half hour of a four day meeting. At the second meeting we were given a bit more time. The third time, a plenary session, the entire four days was devoted to faith/science issues. We had, by that time, convinced all the Cardinals and Bishops on the Secretariat that this was a very important subject. They were all for this type of discussion. Both Pope Paul VI and Pope John Paul II spoke to the members of the Secretariat. Now Pope John Paul II has started the Congregation for Culture. That will take the scientific component from the Secretariat for Non-believers. They are working with scientists and trying to work together with the Pontifical Academy of Science. This has not yet come to full fruition, but it does exist. We need people like yourselves writing to your bishop about such issues.

Somebody should convince the Pope to address scientific issues when he's in San Francisco

in September. The nuclear revolution is connected with U.C. Berkeley -- the cyclotron, the bevatron. The revolution in DNA, is connected with Watson at Stanford. And, of course, Silicon Valley is just down the road. This would be an excellent opportunity for the Pope to say something about the support that we must give to science, both with respect to the moral questions it raises and to its positive achievements. Let me add a brief footnote. I was appointed by the State Legislature to a committee on Science and Values. We haven't had a single meeting. Nothing has happened. Yet it was stated in the newspaper that we're looking at science in order to promote good government and public policy. It's been three years now and we have yet to meet. So the church is no worse off than the State of California.

BRUNGS: I am deeply interested in U.S. history, particularly the 1840-1870 period. Lincoln gave a most pertinent speech to the Congress at the end of 1862. That was a time when the public consensus in the United States broke apart completely, even to the point of sectional warfare. In that speech Lincoln pointed out that the consensus had obviously failed. Partly, he was justifying actions like the suspension of the writ of habeas corpus and other things that he pushed through. He pointed out that there were whole sets of new questions and problems that the country has never faced before, whole areas of society that had been changed by this situation. What was needed, he said, were new ways to build public agreement. One of those new ways was a very bloody war. But he was very concerned with rebuilding one people, once the war was over. That's one of the questions facing us now--how do we rebuild one people? We have come up with no answers but I think we may understand the issues better.

Biotechnology is going to put a very serious strain on our civil association, our associating together as a people. At present, I see no way that we're going to handle its issues except by proliferating law or laws. If we dissolve into a mere aggregate people, then we're going to live by coercion. We need a community and we need an ability to accept and recognize the validity of authority. We cannot live in freedom without some authority and without respect for that authority. Our freedom demands a structure. We cannot be free in a structureless context. These considerations form at least part of the constellation of issues that we've been dealing with.

I wish to thank particularly, our essayists, who have contributed much to our growth in understanding this complex situation. I also want to thank all the participants. We've covered some very volatile issues in an amazingly irenic fashion. That took enormous patience and charity. It's difficult to discuss some of these very deeply emotionally-charged issues in as an irenic and charitable fashion as you did over the weekend.

Finally, I wish to thank Sister Marianne and Bernice. The meeting depends very heavily on them. We would not have had this meeting without them.

Thank you all for coming. Godspeed on your way home.

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