

Update

Volume 16, Number 2 (September 2000)

TAKANOBU KINJO, SCOTT WINTERS AND NICOLE WURSCHER GRADUATE WITH DEGREES IN ETHICS AND MINISTRY

Takanobu Kinjo of Okinawa, Japan, and Nicole Elizabeth Wurscher from the state of Washington received their MA degrees in biomedical and clinical ethics from Loma Linda University in August of this year. Scott Keith Winters, from Lincoln, Nebraska, received an MA degree in clinical ministry the same month. He was the first student to receive this degree from LLU.

Mr. Kinjo, Mr. Winters, and Ms. Wurscher are three of the 1,192 undergraduate and graduate students to graduate from Loma Linda University in 2000. The others are receiving degrees and certificates in the allied health professions, dentistry, medicine, nursing, public health, and the natural and behavioral sciences.

The graduations of Mr. Kinjo and Ms. Wurscher bring the number of those who have completed the MA degree in ethics at LLU to seventeen. Eighteen graduate students are now working toward this degree. Thirteen are working toward the MA degree in clinical ministry.

Mr. Kinjo, who graduated from La Sierra University in 1996 with an undergraduate degree in psychology, anticipates returning to Japan for a while before continuing his education either

in the United States or in the United Kingdom. Ms. Wurscher, who graduated with a bachelors degree in biology from Walla Walla College in 1998, plans to continue her career and education in this country. Mr. Winters, who received his BA degree in 1993 from Union College in Nebraska, plans to finish his Clinical Pastoral Education at Sutter Medical Center in Sacramento.

Mr. Kinjo wrote a thesis analyzing recent controversies in Japan regarding whole brain death criteria and organ transplantation. For her final project, Ms. Wurscher designed a web site for dental ethics and prepared two papers. One of these reviews recent debates in the United States about "medical futility" and the other discusses ways to make advance medical directives more effective. Mr. Winters did a final project on spirituality and values clarification. ♦

DOCTOR ORR'S RELIGION: GOOD, NOT-SO-GOOD, AND VERY GOOD!

Note: David R. Larson made the following remarks at an August farewell gathering in honor of Dr. and Mrs. Robert Orr at Loma Linda University Medical Center.

For me, as for all of you, it has been a great pleasure to work with Dr. Robert Orr at Loma Linda University for the past ten years. It seems like only yesterday that I was in St. Louis for meetings of the Society for Bioethics Consultation. While there I had an opportunity to ask Dr. Mark

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ROBERT AND JOYCE ORR RETURN TO VERMONT

Dr. and Mrs. Robert D. Orr have returned to Vermont, the state they call "home." It is also where all three of their adult children now reside. Dr. Orr, who has served as the director of clinical ethics at Loma Linda University Medical Center since 1990, has accepted a similar position at the University of Vermont.

Dr. Orr received his undergraduate education at Houghton College in New York. He studied medicine at McGill University in Canada. After serving as a physician in the Navy, he practiced family medicine for a number of years in Vermont where he was named "family physician" for the entire state.

After their years of service in Vermont, the Orrs moved to the Midwestern portion of the United States where Dr. Orr studied clinical

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Inside this issue:

"Changing our Genes: Medical Promises and Ethical Threats"

—Anthony Zuccarelli

Medical Theodicy Today

by Richard Rice

The wonderful title of a new book aptly expresses the goal of its contents. *Pain Seeking Understanding*, edited by Margaret E. Mohrmann and Mark J. Hanson (Cleveland: Pilgrim Press, 1999) is neither a book on theodicy per se, nor a how-to book for sufferers or caregivers. Instead, it probes an area between these concerns—the relation between theological convictions and the practical demands of medical care. It is therefore an example of “medical theodicy,” or, as David Larson nicely puts it, “theodicy with a clinical edge.”

This book contains essays by twelve different scholars, including physicians, theologians, philosophers, and ethicists. Part 1, “Clinical Perspectives,” looks at the ways specific individuals come to terms with suffering. The authors argue that sufferers seek a meaning that is practical rather than theoretical, partial rather than comprehensive. A medical theodicy, then, is “practical, experiential, and paradoxical.” Rather than reconciling abstract propositions about God, it seeks to make things of form and beauty out of lived anxiety and pain.

Part 2, “Theological Views,” pre-

sents some contrasting theological-philosophical approaches to suffering. Does traditional theodicy have practical value? Daniel P. Sulmasy says yes, and construes suffering as an inescapable experience of human finitude. Wendy Farley says no. “Suffering does not require explanation so much as redemption.” Accordingly, compassion is theodicy’s ultimate work. We should be present to one another in our suffering just as God is radically present to us. Elliot N. Dorff discusses the Jewish emphasis on the body as integral to the person and the important practice of visiting the sick. Per Anderson, drawing on Reinhold Niebuhr’s so-called “serenity prayer,” argues that we can help people accept and find meaning in things that cannot be changed, contra the attitude that pervasive technology engenders.

Part 3 examines several diverse issues—the “secular problem of evil” the fact that all of us, religious or not, face the twin obligations of relieving the suffering of others and fulfilling our own potential as persons; the response of Christian faith to genetic testing, with its fatalistic overtones; and the need for bioethics to turn from medicine’s traditional attempt to eliminate suffering and take up the challenge of finding meaning in suffering.

This is a valuable collection of

essays, primarily because it emphasizes the problem of suffering. Over the years philosophers and theologians have devoted their attention largely to the problem of evil as a logical conundrum, while health-care givers have devoted their attention to the problem of pain, and relief of physical discomfort. Both concerns broach, but do not directly address, the experience of suffering as a threat to personal meaning, and that is precisely the concern of this book. Among its central features are the following. First, it acknowledges the complexity of the problem. Suffering is inevitable and inexplicable. It admits of no easy solutions. Second, in calling for a practical theodicy, and doing theodicy, the collection values theodicy—the traditional attempt to locate suffering within a framework of cosmic meaning. Although the collection challenges traditional theodicy in various ways, it does not reject the enterprise out of hand. If suffering is more than pain, a distinction made more than once in this collection, then theodicy’s attempt to find meaning in suffering, itself “represent[s] a kind of relief from suffering.” Third, it draws on the reflections of various thinkers, religious and non-religious, clinicians as well as philosophers and theologians. Fourth, the discussion substantiates the “postmodern” insight that meaning lies in the realm of the individual and the particular, rather than the general, and finds natural expression in narrative rather than discursive forms of speech.

Although the book has many of the virtues of a symposium, it also has some of its characteristic shortcomings. The general theme is practical theodicy, but it is not clear that this is the concern of all the essays. The last three pieces in particular seem to go in different directions. In addition, the different essays place varying demands on the reader. Some are highly readable, while others contain tightly constructed arguments.

In all, the book is an important contribution to the ongoing quest for greater understanding of and more effective ways to respond to suffering. I’m glad I read it, I recommend it, and I’ll use it in my classes. ♦

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Changing our Genes: Medical Promises and Ethical Threats

by Anthony J. Zuccarelli, PhD

During the last two decades genetics has emerged from the research laboratory to become a powerful biomedical technology. Public awareness of the uses and potential misuses of genes and genetic information has grown as a result of a rapid-fire series of high-impact applications—DNA fingerprinting, presymptomatic genetic testing, genetically modified food plants, animal cloning, human embryonic stem cell lines, transgenic animals, the Human Genome Project and human gene therapy. The pace and sophistication of these advances has led some to predict that the next 50 years will witness an explosion of genetic applications rivaling those from physics, chemistry and the material sciences in the previous half-century. Gene therapy, as one of these interconnected developments, promises enormous benefits for treating human disease. But what hazards and ethical dilemmas follow in its train?

Gene therapy is the introduction of genetic material into human patients in order to alter the expression of particular genes. The goal of these alterations is to treat, cure, or ultimately prevent a disease or disability. Gene therapy should not be confused with cloning, which has overwhelmed the public media in recent years. Human cloning would result in the birth of an individual with essentially the same genetic makeup as an existing person. It is distinctly different from gene therapy, both scientifically and ethically.

In this discussion I will describe some basic features and define two major classes of gene therapy. After reviewing methods that may be used to introduce new genes into humans, we will examine a few concrete examples, and finally focus on the ethical concerns raised by the prospect of putting new genes into people.

At the start, let's examine several features of gene therapy. In view of the rapid pace of developments, I have projected current capabilities into the near future. There is little question that these improvements will occur, only when and how they will occur.

1. The introduced genetic material may be DNA, RNA, or a modified form of these molecules. (Elsewhere I may use "genes" or simply "DNA" to refer to all of these substances.) Recall that DNA is the permanent storage medium for genetic information in cells. RNA is a versatile molecule, performing a variety of cellular tasks, but its best-known function is to carry selected bits of genetic information from the DNA in the nucleus to the protein factories that reside in the cell body (cytoplasm).

2. The introduced genetic material may come from almost any source—humans, animals, plants, microbes, viruses—or it may be entirely synthetic with no counterpart in nature. Later examples illustrate a few of these possibilities.

3. In current trials the added genetic material is usually supplemental, an addition to the patient's genome that corresponds to defective or poorly expressed genes already pre-

sent. However, considerable effort is directed at developing "gene targeting" in which the introduced material will precisely replace the defective gene.

4. Strictly speaking, the introduced genetic material is not itself therapeutic. In most cases it influences the amounts of various proteins that cells make. The proteins are the molecular machines that accomplish the desired change.

5. The new genetic material may have an intentionally temporary effect or it may be permanent. A genetic treatment for an acute condition, infectious disease, or cancer, for example, might be deliberately short-term. On the other hand, a patient with an inherited or chronic disease may need life-long therapy. Eventually we can expect genetic therapies to be configured to respond dynamically to the patient's condition so that they are expressed when needed.

There are two broad categories of gene therapy, distinguished by the particular tissues that are modified. **Somatic gene therapy** targets the body cells of the patient, any organ or tissue other than the reproductive cells. Tissues in many different organs have been proposed for somatic gene therapy—bone marrow, liver, muscle, skin, thyroid, intestinal epithelium, lungs, blood vessels, heart, brain, etc. Somatic therapy has the same intent as conventional medicine—to relieve the suffering or save the life of the patient under treatment. There is no attempt to produce an effect that extends beyond the individual patient. In fact, heritable effects are specifically and conscientiously avoided.

The methods of somatic gene therapy are experimental, but the pace of investigation is rapid and vigorous. By the end of 1999, about 400 gene therapy trials involving over 3,200 patients had been approved in the United States. Nevertheless, substantial improvements must be achieved before any particular application can be used outside a clinical study.

Germline gene therapy, on the other hand, would make genetic changes that extend to the reproductive or germ cells that develop into eggs or sperm. Such alterations could be transmitted to the offspring of the original patient. In fact, that is an intentional goal of germline therapy. It seeks to achieve a fundamentally new objective for a medical treatment, the heritable correction of the genome.

Germline therapy offers a significant advantage over somatic gene therapy in that it eradicates the genetic cause of a disease condition and prevents it from being propagated to offspring. Some argue that only germline treatments produce real cures, rather than the palliative or symptomatic treatment of individuals.¹ A consequence of such therapy is that the health care system is relieved of treating successive gen-



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erations of affected individuals from the same family. Germline therapy has not yet been attempted in humans and, indeed, no one knows how to accomplish it efficiently or safely. Experience with germline modifications of laboratory and domesticated animals suggests that it may be some time before such alterations can be attempted in humans. Nevertheless, the NIH and the FDA have begun preliminary study of a proposal to treat a fetus *in utero*,² and a March 1998 symposium at UCLA brought together the thought-leaders of genetic medicine to consider the feasibility and advantages of germline therapy.³

Somatic gene therapy, for its part, has come under intense scrutiny since September 1999, after the death of 18-year-old Jesse Gelsinger, a participant in a clinical trial at the University of Pennsylvania.⁴ The deaths of several participants in other trials, attributed to their underlying disease, have also come to light. These incidents emphasize the need for more animal testing, better risk assessment, improvements in informing participants of risks, full reporting of adverse events, and ways to minimize the influence of commercial interests on the trials. Most commentators predict, however, that these cases will not stop further experimentation, but intensify the search for improved methods.

How might therapeutic DNA be introduced into patients? For more than 20 years we have been able to isolate genes that could provide clinical benefits—clotting factor genes for hemophiliacs, growth factor genes to accelerate wound healing, insulin genes for type I diabetics, tumor suppressor and cytokine genes for cancer treatment, and genes for arterial growth to help patients with coronary disease. The challenge has been to put these genes into the cells where they would be most useful. The “delivery problem”—getting genes into cells—is a major technical roadblock to success. At present there are two basic approaches.

Viral vectors. Virus-mediated gene transfer involves packaging therapeutic genes into engineered virus particles that can carry them into patient cells. These vectors exploit the incredibly efficient mechanisms that viruses use to introduce their own genes into cells during infection. Three different virus groups have been used widely—lentiviruses and other retroviruses (relatives of HIV), adenoviruses (common cause of “colds” and conjunctivitis) and adeno-associated virus (unrelated to adenoviruses and not known to cause human disease). Other virus groups are also under consideration. Typically, the virus is disabled by removing all or part of its genome so that it cannot kill or proliferate in the cells it enters, unless that is a desired result. One or more therapeutic genes replaces the viral material.

All existing viral vectors suffer from practical limitations. The tendency of adenoviruses to provoke severe immune responses in sensitized patients was the likely cause of Jesse Gelsinger’s death. Furthermore, genes carried by adenovirus vectors usually have only a temporary effect because this virus enters cells that have a short life in the body. Vectors based on the small adeno-associated virus offer very limited space for therapeutic genes, but they may provide a more sustained effect. Lentiviruses and other retroviruses may disrupt normal genes in the patient genome and such changes could

potentially initiate cancer.

Non-viral vectors. There are several alternatives to using viruses. Liposomes, lipid-DNA complexes and bare DNA have some promising applications. So far, these have proven much less efficient in most situations. It is possible that a better understanding of how viruses enter cells may be useful in designing artificial agents that mimic their efficiency and specificity, but avoid their deficiencies.

***In vivo* and *ex vivo* methods.** The gene delivery problem has had an impact on how gene therapy is performed. *In vivo* gene therapy, where the genetic material is introduced directly into the patient, has been very disappointing. Not enough of the patient’s cells are effectively treated. Consequently, most early trials were performed *ex vivo*—

“The challenge has been to put these genes into the cells where they would be most useful.”

outside the patient. In this approach, cells from a target tissue are obtained from the patient. Genetic material is introduced into these cells as they grow in culture using any of the means described earlier. Successfully modified cells are selected and expanded by further growth in culture. Finally they are returned to the patient so that they can colonize a target tissue. Direct *in vivo* treatment is the long-term goal because of its simplicity and economy. *Ex vivo* treatments represent a transitional expedient that will be used until the efficiency of vectors improves enough for *in vivo* use. Germline modifications, for comparison, would be performed in the undefined realm between *in vivo* and *ex vivo*—genes must be physically introduced into a zygote (pre-embryo) or into the four-to-eight cell embryo in the laboratory.

The wide range of potential applications for gene therapy is best illustrated by describing a few examples of attempted or proposed uses.

Retroviral therapy for adenosine deaminase deficiency. The first authorized attempt at gene therapy was to treat a rare genetic defect, deficiency of the enzyme adenosine deaminase. Absence of this enzyme causes accumulation of a substance that poisons essential cells of the immune system. The resulting severe combined immune deficiency syndrome (SCIDS) leaves the sufferer exquisitely susceptible to infections by even the mildest pathogens. SCIDS patients usually do not survive early childhood. (You may remember photos of David who lived to age 12 inside a sterile plastic bubble.) In 1990 Michael Blaese and French Anderson constructed a modified retrovirus to carry a functional copy of the human adenosine deaminase gene. They used the virus to introduce the gene into bone marrow cells extracted from a 4-year-old SCIDS sufferer, Ashanti DeSilva, then returned the treated cells to the patient. Presence of the genetically modified cells contributed to measurable improvements in her immune system. Ten years after her initial treatment, Ashanti now attends school and participates in the activities of a typical 14-year-old with no more than an occasional cold. But genetic therapists cannot claim a cure. The treated blood cells act for only a few months, so the process must be repeated periodically. Furthermore, Ashanti continues to receive oral supplements of the missing enzyme.⁵ In 1999, two nine-month-old boys with SCIDS were given new genes in France. They now have immune cells that were missing

before treatment and the constant infections that they suffered since birth have disappeared.

Drug activation gene to kill cancer. Gancyclovir, an antiviral drug, kills cells infected with herpes virus because the virus makes an enzyme, called thymidine kinase, that converts gancyclovir into a cellular poison. One gene therapy experiment used this reaction to kill glioblastoma brain tumors. The thymidine kinase gene was put into a retrovirus vector that was injected into the tumor. Because these retroviruses could infect only dividing cells, they attacked proliferating tumor cells rather than normal, quiescent brain cells. Later, the patient was given gancyclovir, which specifically killed the tumor cells with viral thymidine kinase. The treatment was even more effective than expected due to the so-called “by-stander effect” in which gancyclovir kills both sensitized cancer cells as well as their nearest neighbors. The method is now being tested on several other cancer types.

DNA immunization. Naked DNA coding for proteins that appear on the surface of a pathogen can function like a vaccine. Unexpectedly, when DNA is injected directly into muscle some of it enters cells surrounding the injection site. If the DNA is properly designed, these cells will express the genes for a time, secreting the corresponding proteins and displaying them on their surfaces. Since the new proteins are from a pathogen and are not normally found in the body, they are identified as “foreign” by the immune system and targeted by antibodies and phagocytic cells. The immunological “memory” of this event can protect the person from infection by a real pathogen that displays the same proteins.

p53 skin cancer cream. There are about 100,000 new cases of squamous cell skin cancer in the United States each year, most due to excessive exposure to sunlight. After a sunburn, skin “peels” because a gene called p53 triggers the death of cells that have suffered severe UV damage. Programed cell death is a desirable protective response to DNA damage. However, if the p53 gene were itself inactivated in some earlier event (like a childhood sunburn), its protective function would be lost. Cells with p53 defects have taken the first steps on the pathway to cancer because they survive subsequent genetic damage. One proposed genetic therapy is a skin cream that contains copies of the p53 gene in liposomes. Applied to the skin, the supplementary p53 gene would cause the immediate self-destruction of pre-cancerous cells. The treatment would be used on individuals at risk for skin cancer or with history of pre-cancerous lesions.

Viral mediated gene therapy for cystic fibrosis. The most serious manifestation of cystic fibrosis is the susceptibility of sufferers to frequent lung infections. These cause inflammation, destruction of lung tissue, respiratory failure, and premature death. The underlying defect is in the CFTR gene that is normally responsible for regulating the flow of ions across cell membranes. The gene was isolated in 1992 and has been engineered into a recombinant adeno-associated virus. The original virus genome was eliminated to make room for the CFTR gene. Applying the virus to airway epithelial cells in the form of an inhalant can reverse the deficiency and avoid the most severe consequences of the disease.

Ethical considerations. Laudably, the Human
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Genome Program was the first national science initiative to specifically designate a portion of its budget for systematic examination of the ethical, legal and social implications of genetic technology. One consequence of the resulting discussions is the general acceptance of the proposition that the introduction of therapeutic genes into somatic cells is conceptually similar to the transplantation of cells or organs, or the implantation of artificial medical devices. It raises the same ethical and social issues as those widely used medical procedures.

1. “Do no harm” is the first principle of medicine. A treatment must offer a measurable prospect of benefit, and that benefit must outweigh the possibility of adverse events. The requirement for a favorable risk/benefit analysis is formally embedded in the clinical testing program of the United States. Somatic therapies will emerge from clinical trials when there is good evidence that they offer solid benefits and avoid significant harm.

On the flip side, since somatic genetic therapies may always impose some inherent risk, they should probably not be used to alter conditions that are not life-threatening nor severely disabling. In spite of public demand and possible financial inducements, using genes to engineer cosmetic enhancements—like reversing pattern baldness or changing superficial appearance—should not be considered until the attendant risk approaches zero. I would hope that genetic medicine could avoid the excesses of cosmetic surgery.

The risk/benefit calculus becomes more complex in germline gene therapy because we cannot foresee all the consequences of permanent human genetic modifications. We know too little about the multiple roles of individual genes, and the proteins they make, in highly interactive living systems. Some consequences may not become apparent for years or even generations. Will the eradication of a genetic feature deemed undesirable because of its primary effect also eliminate some secondary, but highly valued, trait?

This concern, however, may be addressed by recent proposals that would permit patients, under medical supervision, to reverse gene additions non-invasively. There are several molecular systems that could accomplish the feat of precisely excising an artificially introduced DNA segment and sealing up the gap. An oral drug, similar to an antibiotic or hormone, could trigger the enzymatic reversal. Like the “uninstall” option on your computer, individuals would be able to undo genomic changes made by their progenitors, or exchange them for more recent versions.⁶

2. Christian healing commission. A second principle is the Christian obligation to alleviate suffering and preserve life. The Scriptures portray God as endlessly concerned with the moral and physical restoration of his creatures. “And he sent them to preach the kingdom of God, and to heal the sick” (Luke 9:2). Christ gave explicit instructions to continue his healing ministry. To the extent that it can prevent disease and restore health, we are obliged to investigate the potential of genetic therapies. Christian health professionals have a moral obligation to use the most effective methods to prevent or treat disease.

3. *Imago Dei*. The doctrine of the image of God in humanity is a fundamental Christian belief. Though there may be disagreements among Christians as to what consti-

tutes God's image, we generally hold that the distinctive traits that set us apart from other earthlife include abstract reasoning, appreciation of spiritual values, and the ability to make decisions based upon moral principles. We should avoid any genetic alteration that might interfere with these capacities.⁷

Some claim that genetic technology offends or violates the "natural order." Respect for God and created life, however, does not preclude human intervention in nature. Humankind has regularly abandoned the course of nature. Our world includes heart disease, diabetes, cancer and AIDS. Few would argue that these particular manifestations of nature are good or that we should allow them to progress unopposed. From the Christian perspective, nature is not God, that it should be worshiped. On the contrary, we are assigned the task of preserving the good in nature and restoring humanity to a condition in which it can appreciate the character and goodness of God.

4. Human autonomy. God places enormous value on human freedom. For this reason genetic alterations that would limit an individual's abilities, restrict participation in society, reduce autonomy, or undermine personal freedom must be rejected. Autonomy may be violated if germline therapy is attempted without a means for reversal. This principle also supports the development of genetic therapies as a means to satisfy the needs of prospective parents, at risk for transmitting serious genetic diseases, to bear healthy children. Pressure to use germline gene therapy, for example, "will not likely come from government or dictators with a desire to make a super race, but rather from parents who desire to improve the chances of their biological children."⁶

The principle of autonomy requires informed consent. Patients must be able to weigh the potential risks and advantages and freely select a course of action without coercion or duress. The ability to give informed consent may itself be undermined if genetic therapists are unable to predict with confidence the long-range effects of a genetic change. Consequently, reliable means for reversing an alteration will be essential, especially for germline therapy, since unintended consequences may not appear or be appreciated for many years.

Finally, irreversible germline modifications would violate the rights of subsequent generations to inherit an unmodified genome. Thoughtful, unconstrained individuals may make different choices regarding artificial changes in their genes. The therapeutic choice of one generation should not unduly limit the options of the next. Without mechanisms to activate a genetic therapy at the age of majority, and the ability to undo genetic modifications, germline changes raise the issues of genetic determinism, loss of uniqueness and the failure of informed consent.

5. Justice. Some question whether access to gene therapy will be allocated equitably. Can we afford such expensive treatments at a time when our health-care system is strained? Who should receive it? If it is available only to those who can afford it, will the distribution of desirable traits become badly skewed among different groups in society? These questions point out a general flaw in our health-care system since they apply with equal force to other advanced medical services—

organ transplantation, advanced forms of assisted reproduction, and various surgical techniques. This is a health policy issue that must be addressed adequately before we can claim to be a fair and just society.

6. God endowed human beings with intelligence and creativity, and charged us with responsibility for the planet. He intends for us to grow in our understanding of the principles of life, including the function of our bodies. Ethical research and examination can only increase our appreciation of God's wisdom and goodness.

As no other creatures on earth, we persist in probing and questioning, attempting to understand nature and make it accountable. Within the medical realm, we are powerfully driven to control disease—conditions that disrupt the order and harmony that God intended. We are invited to use the knowledge he gives us.

Consequently, gene therapy need not be an expression of human pride or arrogance. As long as the aim is to alleviate suffering, and we use our creativity with purpose, courage, caution, contingency and compassion, keeping in mind the protection of the defenseless and helpless, genetic medicine has the same moral justification as traditional medicine. On the other hand, an attempt to redesign ourselves into creatures with new and superlative powers would be perilous. A balanced view of our God-likeness should remind us that we tamper with fundamental human attributes at great risk.

Many caution that the use of gene therapy will put us on a slippery slope with no dividing line between therapy and enhancement. In rebuttal, we do not prohibit every endeavor that, if pursued without restraint, might lead to undesirable consequences. Everything we do carries risks which we attempt to balance against the benefits of measured action. That is the domain of ethics. Our deliberation implies that we can prescribe limits for our behavior. The reflection of God's image that remains invites us to responsible action. ♦

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"Respect for God and created life, does not preclude human intervention in nature."

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Siegler of the University of Chicago if he thought Dr. Orr might serve Loma Linda well as a clinical ethicist. Dr. Siegler's face beamed with joy as he assured me that we could make no better choice. He was right!

For the past decade, we at Loma Linda have enjoyed a wonderfully collaborative relationship between those of us who are primarily teachers and those of us who are primarily clinicians, something that is not always the case in the world of bioethics. The Clinical Ethics Service, the Center for Christian Bioethics and the Master of Arts program in biomedical and clinical ethics all testify to the success of this relationship. Dr. Orr's presence, personality and professionalism have done more than we can tell to make all this possible.

We are going to miss Bob. We are also going to miss Joyce, his splendid partner.

Nevertheless, even on solemn occasions like this one, honesty is required. This means we must concede that in some respects our relationship with Dr. Orr has been awkward. This is especially true with respect to his religious orientation, something about which there is good news, not-so-good news and very good news.

The good news is that, like many of us, Dr. Orr received his basic religious education from people who are theological descendants of the eighteenth century English reformers, John and Charles Wesley. Before studying medicine at McGill University, he attended a small liberal arts college in New York that is operated by those who descend theologically from these two brothers.

Although many don't know it, and some apparently don't care, Seventh-day Adventists are also part of the Wesleyan stream of Christian thought and life. Ellen White and other theological "grandchildren" of the Wesley brothers founded Loma Linda University and many other medical and educational institutions around the world. Because we share this common religious heritage, it has been easy to be comfortable when working with Bob.

The not-so-good news is that Dr. Orr is not always as faithful to his

Wesleyan heritage as we would prefer. He has been known to fraternize with those who are Christians of different sorts: to speak well of them, to work with them and even to worship with them!

Given his religious background, we expected that when he and Joyce moved to Southern California they would join a congregation belonging to any one of the several Wesleyan denominations in our area. But they didn't! Each week they worship with another group of Christians whose name I shall not mention in this company. For many of us, this has been a source of intense perplexity and pain for ten long and difficult years!

The very good news is that Dr. Orr's Wesleyan background surfaces in unmistakable ways even when none expect this to happen. This is a comforting verification of the words of Scripture, "train up a child in the way he should go, and when he is old, he shall not depart from it."

Nowhere is this more evident than with respect to the question of human freedom. Strange though it may seem, Dr. Orr now associates with some Christians who actually believe in predestination! Nevertheless, sometimes when we are least expecting it, the emphasis of his Wesleyan religious background on human freedom, and the uncertainty about the future it necessarily implies, erupts from him in surprising but telling ways.

I shall mention only one actual example, a report Dr. Orr gave us himself with his usual professional seriousness and self-criticism at one of our weekly Clinical Ethics Case Conferences.

Dr. Orr revealed that since we last met he had been requested to visit an elderly woman in our medical center who was conscious though very near death. After discussing all the options as best they could, even though a respirator was assisting her breathing, this patient, her gathered relatives and Dr. Orr all agreed that it would be best no longer to fight her approaching demise but to accept its inevitability with calm Christian dignity.

Dr. Orr, as he always does in difficult cases like this one, explained to the patient what would happen. "We will give you some medicine that will

enable to you to fall into a deep and comfortable sleep," he said. "While you are sleeping, we will gradually turn down the respirator. Without even knowing it, you will then stop breathing. You will experience no grief, stress or discomfort as you peacefully slip away."

At this poignant moment, one of the patient's loved ones exclaimed, "And the next thing you know, you will be with Jesus!"

Dr. Orr quickly replied, "And maybe not!" He actually did!

Dr. Orr thinks he knows why he startled everyone—the elderly patient, her relatives and even himself—by saying this. As he explained at our Clinical Ethics Case Conference with obvious embarrassment, he believes he was trying to make clear that not every patient who is extubated immediately expires. Some continue breathing on their own for a while longer, a few for many more years.

But I know the real reason why Dr. Orr said, "And maybe not!" In his heart of hearts, despite his more recent religious wanderings, he is still a Wesleyan! As such, he senses, even if he is not always consciously aware of it, that because of human freedom the future is somewhat uncertain for all of us!

Thank you Bob for ten wonderful years! Jerry Winslow left Loma Linda for four years and then returned. I hope that someday you will come "home" too!

Note: After these comments, Dr. Orr said he would return to Loma Linda if "this is predestined!" ♦

**Bioethics Grand Rounds
November 8, 2000**

***Ethical Issues in Professional
Practice: The Problem of
Multiple Relationships***

Speaker:

Janet Sonne, PhD

**12 noon to 1 P.M.
A-Level Amphitheater
Loma Linda University
Medical Center**

The Orrs *Continued from page 1*
ethics with Dr. Mark Siegler and others at the University of Chicago. After completing this program, they moved to Redlands, California and Dr. Orr joined the faculty at Loma Linda.

At first Dr. Orr divided his time between family medicine and clinical ethics. Although he retained his appointment in family medicine, as the years went by and the demands for his consulting services increased, he invested increasing amounts of his time in the area of clinical ethics. His work as a clinical ethicist has been financed by the

medical center's administration.

In addition to his work on campus, Dr. Orr has been an active leader in the California Medical Association, the Christian Medical and Dental Society and the American Society of Bioethics and the Humanities.

Dr. Orr successfully led a transition from a "committee approach" to a "consultant approach" in clinical ethics at Loma Linda University Medical Center. In the vast majority of cases, the Institutional Ethics Committee at LLUMC no longer conferred about difficult ethical issues

pertaining to patient care. Instead, health care professionals, as well as patients and their families, called for professional counsel from Dr. Orr and the clinical colleagues he mentored. Once each week, the entire team of ethicists at Loma Linda, both clinical and theological, met to discuss cases in which Dr. Orr and his associates recently served as consultants. For a decade, this arrangement has successfully blended the greater efficiency of the "consultant approach" with the advantages of collaboration in the "committee approach." ♦

Fifth Annual Bioethics & Spiritual Life Conference

"Care for the Caregiver: Who Really Cares?"

February 11-12, 2001

presented by

Loma Linda University

The Centers for Christian Bioethics and Spiritual Life & Wholeness

Speakers

Wil Alexander, PhD
Joan Coggin, MD
Barbara Couden, RN, MFT
Marsha Fowler, PhD, RN
David Hilfiker, MD
James Londis, PhD
Robert Orr, MD
Kenneth Pargament, PhD
Clarence Schilt, DMin

Information

Contact:
Center for Christian Bioethics
or
Center for Spiritual Life &
Wholeness
Phone (909) 558-4000, Ext. 43983
Fax: (909) 558-0336
E-mail: mhung@som.llu.edu

Schedule

Sunday, February 11, 2001
Registration 10 AM-12 noon
Brunch 10:30-11:30AM
Session I 12 noon-5 PM

Monday, February 12, 2001
Session II 9-11:30 AM
Lunch 11:30 AM-1 PM
Session II 1-5 PM

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