

Tough Bioethical Questions for Pastors

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In this essay several bioethical issues such as in vitro fertilization, doctor assisted suicide, and environmental ethics are reviewed using the standards discussed in the previous paper entitled *The Ethics of Pastoral Ministry in Medical Care*.

In Vitro Fertilization

In vitro fertilization, known as IVF, is a procedure used for infertile couples to enable them to have a baby. It is sometimes used when a woman's Fallopian tubes are blocked or damaged thus making normal fertilization of the egg impossible. It is also used when artificial insemination has proved to be unsuccessful or when infertility has persisted for four or more years.

Hormone therapy is used to cause a woman to "superovulate." The resulting ova (eggs) are harvested through surgery. The sperm sample obtained from the father or a donor has been washed and centrifuged in a culture medium in order to concentrate the sperm. After the ova have been matured for four or five hours in a specific nutrient medium, the sperm and eggs are mixed together in a petri dish. After fertilization, embryonic cell division begins to take place. The embryos are then implanted in the uterus using a slender teflon catheter passed through the neck of the uterus. The hope is that at least some of the ova thus implanted will adhere to the wall of the uterus and pregnancy can proceed normally. Unused embryos are usually frozen using liquid nitrogen for a second attempt if the first is unsuccessful. Claims of successful fertilization outside a woman's body were first made in the 1940s by the gynecologist John Rock and in the 1950s by Landrum Shettles and also by the Italian scientist Daniele Petrucci. But independent confirmation is lacking and these claims are generally rejected. Physiologists Robert Edwards and F. D. Bavister and gynecologist Patrick Steptoe are credited with the first in vitro fertilization in 1969 (Reichenbach and Anderson 1995, 110). The first birth resulting from IVF did not come until 1978. Edwards and Steptoe implanted an eight-celled embryo into Lesley Brown in November of 1977. On July 25, 1978 Louise Joy Brown was born, the first recorded human birth from IVF.

IVF raises a number of ethical questions. Some are general and others are more specific. We will begin by looking at the more general concerns. The first of these more general questions has to do with whether it is right to tamper with the natural order of procreation. For many who hold to the Roman Catholic tradition, any other means than the natural conjugal union is illicit and immoral. For them the procreation of a new life must only be the fruit of marriage and the "active element can never be lawfully obtained by acts that are contrary to nature" (Reichenbach and Anderson 1995, 60). This not only rules out the use of masturbation to obtain sperm but it also denies the legitimacy of IVF because it is not the expression of the natural conjugal act between a husband and wife.

To rule out IVF on the grounds that it involves masturbation is unwarranted because there are other ways to collect sperm, such as the use of a condom or coitus interruptus. The whole argument regarding natural versus unnatural procreation is difficult to maintain or define given that much of what is involved in the conception and birth of a child today is unnatural in the sense that it is aided by modern technology and medicine. We use fertility drugs to aid in conception and we use modern drugs and even surgical techniques to deliver babies.

Our biblical paradigm sheds light on this issue. We are given permission to rule and subdue the earth and exercise dominion over it. This injunction is the Christian's ethical foundation for much of modern medicine and would include IVF inasmuch as it is a technique that aids reproduction. Objections need to be based on other grounds.

We should also consider the philosophical argument that IVF is both loving and just. We must be careful here to distinguish between the general concept of the procedure, which is to aid infertile couples to have a child, and the specific details of the medical intervention. As we will discuss later, the actual procedure may not be just or loving in regard to the embryo and the manipulation it will have to undergo.

The concept of providing infertile couples with children by using new reproductive technology is of course not addressed directly in Scripture. There are no rules or explicit guidelines from which to draw conclusions. But when we consider our principles of justice and love it would appear as if the motivation to provide childless couples with children is just, in that it follows God's concern for equitable treatment. It is fitting that we should help those without children to experience the joy and fulfillment of raising a family.

This is not to say it is the right of every couple to have a child. This is a separate issue. The right to bear children is usually discussed in a negative sense in that it is usually stated as a right not to be prevented from having children. It is an argument against sterilization. This would also involve the concept of justice but is beyond the scope of our present discussion.

The use of medical procedures such as IVF to help couples have children also fits well with our concern to follow the principle of love. In fact we see as a recurring theme in Scripture the plight of the infertile woman who calls out to God for a child. It is remarkable how many of the central biblical characters are born to infertile women after they call out to God for relief. Sarah, Rebekah, Rachel, Hannah, and Elizabeth are all the recipients of God's loving kindness in granting them children. As a general principle it is a loving act to help childless couples conceive. Again, as we consider the specifics of the procedure it may not turn out to be loving in terms of the embryo.

A second more general concern regarding IVF is the complaint that it separates the unitive and procreative aspects of sexual intercourse and that it is immoral to do so. John Feinberg in "A Baby at any Cost and By any Means" makes the point that if this is so, then so is intercourse after menopause for it too separates the procreative and the unitive aspects (Feinberg 1993, 163). There is no biblical injunction to lead us to believe that this kind of division is immoral.

Some claim Genesis 38:8-10 teaches that the Lord was displeased with this kind of separation. In the story, Onan, Judah's son was supposed to fulfill his Levirate duty to his sister-in-law and give her a child on behalf of his dead brother. Onan spilled his semen on the ground to prevent her from becoming pregnant because he did not want to obey. But the Lord's displeasure is linked to his disobedience not to the means of his disobedience, just as God's response to Jonah had to do with his refusal to obey and not his means of transportation.

Another general concern regarding IVF is raised when donor sperm or ova are used. Some argue that this constitutes adultery, a breach of the seventh commandment. But since there is no lust involved, nor is there any physical, emotional, or spiritual contact with the donor, this is unfounded.

Others, such as John Jefferson Davis, follow the German theologian Helmut Thielicke and maintain the use of donor sperm (or ova) introduce a significant imbalance into the marriage relationship. The personal solidarity of the couple is broken down by the interjection of a third party, even if he or she is only represented by their sperm or ova. While one person in the

marriage has their maternal or paternal function fulfilled the other has not. The child becomes a constant reminder of biological failure and "the shadow of an anonymous third party clouds the relationship" (Davis 1993, 63).

Although it is generally the normal pattern to have children who are genetically related to the husband and wife there are many exceptions in Scripture. Children are adopted, widows or widowers with children remarry. Nothing in Scripture prohibits or sanctions the use of donor sperm or eggs; it does not address the issue. Rather, it seems in keeping with the nature of God's loving kindness to accept children regardless of their genetic heritage and to love them as one's own. Before proceeding with IVF by donor this must be one of the considerations. But given that the relationship is entered to willingly and with forethought, the love and acceptance can be a positive model of the love God has for all his children.

There are several specific concerns regarding IVF. Some object on the grounds that it requires the allocation of funds that would be better used to fight other problems such as poverty, pollution or urban decay. Others oppose IVF because they fear it may lead to embryos being grown for use in eugenic experiments or for tissue repair. But the most serious objection for the Christian centres on the waste and loss of embryonic life.

In the procedure there are many eggs that are lost due to the low success rate and also due to the procedure since some fertilized eggs are discarded if they do not appear to be viable. In some cases if too many embryos implant on the uterine wall some may be aborted to insure the survival of one or two babies to full term. Proponents of IVF argue this loss is not excessive since in natural reproduction only thirty percent of pregnancies result in babies, the uterus spontaneously aborts about seventy percent. The doctor is simply doing what the body normally does. Opponents are not convinced. They maintain there is a major difference between losing an embryo by natural means and discarding embryos. The later involves human volition. Death at the hand of another is morally reprehensible while death by natural means is morally neutral. Those who hold to the Christian paradigm of the sanctity of life think humanness and personhood begin at conception and view the loss of embryonic life "as tantamount to murder" (Feinberg 1993, 152-53).

Some hold that personhood begins at some point after fertilization. They believe that the criteria for personhood involve some kind of developmental, intellectual or experiential quality. The difficulty this position faces is to try to fix a point at which the human embryo becomes a person. All of the genetic material and potential for life is present at fertilization. This view also provides the dangerous option of viewing some humans as non-persons. If the human is a person based on some kind of qualitative development then we may begin to view those with diminished capacity as non-persons. This would be a danger to the infirmed, mentally handicapped and even newborns, who do not measure up to the perceived criteria.

Feinberg lists five possible fates for a fertilized egg: (1) It may be implanted in the hope of producing a child. There are no moral complaints on the grounds of this fate. (2) It may die in one of several ways: It may be inserted in a uterus and be spontaneously aborted; it may never be inserted and die by "natural" demise; it may be actively destroyed. (3) It may be used in a manipulative experiment. (4) There may be an attempt to perpetuate it beyond the blastocyst stage by using some type of artificial placenta. (5) Finally, the embryo may be frozen. If frozen a number of options present themselves. Frozen embryos can be thawed for a second try at IVF. They may be stored for several years until the couple is ready for another baby. They may be offered to infertile couples and of course they could be later used for experimentation.

For those who do not believe these embryos are human persons there is little objection to the options just noted. But for those who believe they are persons there are significant problems. The fate of spontaneous abortion is unacceptable to some because they believe it would be a

death caused by a technique they find immoral on other grounds. To others, this fate is not immoral because the intent was to produce a child and the death was spontaneous and apparently beyond the control of the couple or their doctor. If the embryo was never used and left to die or killed, it would be unacceptable to any who consider the embryo a human person.

Manipulative experimentation is particularly objectionable to those who think of the embryo as a person. Keeping the embryo alive by artificial means would also be unacceptable. Regarding freezing embryos, if later used for experimentation or simply discarded, it would be considered immoral. If they were later used for implantation, some would approve. On the other hand some would object regardless of the ultimate outcome because they consider IVF as normally practiced immoral since to harvest more than one egg is to waste embryonic life. Others would complain on the grounds that freezing embryos is experimental for we do not know what damage may occur to an embryo by freezing it.

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I disagree regarding Feinberg's objection that IVF is immoral because it is a deliberate act of the will that puts the embryo in peril. Knowing the potential for fertilized eggs to naturally abort is about 70 percent even for natural reproduction, don't we willingly put an embryo in peril every time we try to conceive a baby? It is a deliberate act of the will to try to have a child by natural means. This puts an embryo in peril. Many do not survive. Whether this deliberate act takes place in a petri dish or a fallopian tube, it is still a deliberate act. Since God intends for us to reproduce and this results in the loss of embryonic life as a part of the process the deliberate act of the will is not the issue. The intent of the process is the issue. If the intent was to kill it would be wrong but in IVF the intent is not to kill but to give life.

Feinberg also objects even if a couple only use one egg and agrees not to abort even if abnormalities occur because IVF takes too much risk with human life. I do not share his concern. I am left to wonder how much risk is too much. Why is this procedure too risky while so many things we do in medicine and in life in general are very risky? Teaching my son to drive a car is a risk. Driving an automobile is very dangerous, especially for teenagers. There is a certain risk to nearly everything we do. But who can determine whether certain procedures are too risky and therefore immoral? We must consider intent and the greater good.

I teach my son to drive because my intent is to help him be independent and achieve adulthood even though I know that learning to drive may introduce him to the most dangerous activity in his life. The greater good is that by driving he will have a better opportunity for a job and a productive life. I have known many young people who have died in car accidents but the risk involved is outweighed by the intent and the greater good. In IVF the intent is to produce a child. The greater good is that couples can have children, who are a blessing from God. In fact, in Genesis 1:28 we are instructed to be fruitful and increase in number.

But I too have concerns regarding freezing unused fertilized eggs. My objection is that there is often no intent to implant frozen embryos, they are only frozen in case they are needed. They can be frozen for only a certain period of time before they lose their viability. Perhaps an alternative would be to restrict freezing to unfertilized eggs and sperm. Unfortunately, ova do not freeze well. There are certain biochemical reactions that the ova must undergo even after

ovulation that increase their morbidity if frozen. If this problem could be resolved it would certainly aid in removing much of the moral objection. This would get around the problem of what to do with unused embryos.

A second major moral objection for Feinberg is that IVF involves performing an experiment on a human being without that person's consent. In effect it is an experiment to see whether or not the egg will implant and lead to birth. He maintains this is not the same as parents giving consent to an experimental medical procedure for an infant or a child who does not have the ability to give informed consent. In that case there is an existing person and the treatment seeks to remedy a disease. With IVF there is no existing person and the experiment tries to bring a person into existence and then maintain that existence. The two scenarios are not the same.

My response to this objection is that Feinberg is inconsistent in denying IVF while not viewing fertility drugs in the same light. They too, using Feinberg's words, are an experiment on a human being without his or her consent. They are an attempt to see whether or not an egg will be fertilized and lead to birth. Certainly, all interventions intended to aid reproduction are an experiment with human life without their consent. Nobody asks to be born.

But it is awkward to speak of an experiment on human life when the experiment takes place before the beginning of life. Actually, it is not an experiment on human life in the same sense as, for example, the transplant of a baboon heart into a human. It is an attempt to give the gift of life. As I argued previously, even the attempt to have a child naturally is done with the hope of success, not with certainty.

Feinberg is also concerned about damage to the developing child. IVF is such a new procedure that we do not know its long range effects. But I would argue that neither do we know the long range effects of many of the medical procedures of modern medicine. This should encourage us to proceed with caution but it is not a strong enough reason by itself to consider IVF morally wrong.

My view is that IVF is morally acceptable given certain conditions. My primary concern is that only enough embryos would be fertilized that are intended to be used. This would circumvent the potential harm to frozen embryos. It would also increase the cost of the procedure which in Canada is approximately 10,000 dollars for each try. Also, all the embryos that are frozen should be implanted. The doctors should not choose only certain embryos to live over others. This type of genetic manipulation would end up in rejecting some embryos and would be similar to aborting embryos that appear to be deformed. The sanctity of human life requires us to implant all fertilized embryos and then allow nature to take its course in choosing which ones will survive.

IVF is an ethical minefield. Each step must be evaluated with great care. But ultimately it is our concern for human embryonic life that raises the greatest challenge. The embryo in the earliest phase is created in the image of God and deserving of the respect and care due its unique place in creation.

Doctor Assisted Suicide

Doctor assisted suicide is one aspect of the larger debate on euthanasia. Lawyers, physicians, philosophers and judges have examined questions about withholding life-sustaining treatment for the last two decades. Generally it is agreed that patients have the right to make decisions about their medical care even if those decisions hasten death. For example, cancer patients sometimes decide not to undergo further chemotherapy treatments even though that decision may shorten their lives.

Euthanasia (from the Greek, good or happy death) is an old ethical problem given new dimensions because of modern technology and the ability to prolong life. It is the "deliberate killing of a person suffering an illness believed to be terminal, ostensibly out of mercy" (Davis 1993, 168). There is often a distinction made between active and passive euthanasia. Passive is used to refer to the termination of useless means in truly terminal cases. Active implies some definite act, such as lethal injection, to end life. Davis argues and I concur that passive euthanasia is not really euthanasia since it is simply allowing someone to die. It is not choosing death as a moral end.

There is also a distinction made between voluntary and involuntary euthanasia. Voluntary refers to the situation where the patient wishes to die and consents to the action that will make it happen. Involuntary euthanasia occurs when the patient is unable to consent, perhaps because he or she is in a coma.

Doctor assisted suicide is just one aspect of this debate. It differs from euthanasia generally in the extent to which the doctor participates in the process. In doctor assisted suicide the patient performs the life-ending act under the physician's guidance while in euthanasia the doctor administers the death causing agent. There is an increasing willingness in society to condone doctor assisted suicide or even euthanasia. In the Netherlands, euthanasia is practiced openly and commonly, with the support of the Dutch Medical Association:

Euthanasia is permitted in the Netherlands when four conditions are satisfied: there is intolerable suffering with no prospect of improvement; the patient is mentally competent to choose euthanasia; the patient requests euthanasia voluntarily, repeatedly, consistently over a reasonable period of time; and two physicians, one of whom has not participated in the patient's care, agree that euthanasia is appropriate. (Levine 1993, 114)

From the time of Hippocrates the principles of medical ethics have instructed physicians to refuse their patient's requests for death causing agents. "I will never give a deadly drug to anybody if asked for it, nor will I make a suggestion to that effect" (Levine, 108-109). Doctor assisted suicide has no place in the professional responsibilities of a physician.

Arguments in favour of physician assisted suicide generally follow along three lines. The first line of reasoning proposes that this is an issue of personal autonomy. The Charter of Rights is used to argue that death with dignity is a basic human right and should be legally sanctioned. Usually a great deal is made of the pain and hardship involved in death and that it would be unjust to cause people to continue to suffer when death is inevitable. This argument tends to downplay the ability of modern medicine to ease pain and even render the patient unconscious if necessary to avoid undue suffering.

A second grounds used by those who favour doctor assisted suicide is the "botched suicide" argument. This position appeals to the notion that without doctor assistance there is a greater possibility that patients will be left impaired because of misconceived or poorly planned suicide attempts. This line of reasoning does nothing to strengthen the argument. It assumes that suicide is an appropriate solution. If we follow this argument then all those wanting to commit suicide, even the mentally disturbed, should have the benefit of medical assistance to end their lives.

Finally, some argue that this is a matter of equality. Since we who are physically able have the ability to commit suicide, it is unfair to withhold help from those who need assistance to achieve their goal. But surely if it is not morally right to assist suicide, extending this service to the terminally ill is not justified.

There are three major ethical concerns with doctor assisted suicide. First of all, it seriously undermines an essential element of the doctor-patient relationship. The wholehearted belief that the doctor is devoted to caring for the patient's health is eroded. If in discussing one's thoughts about suicide to one's doctor, that doctor conveys the impression that he or she feels that suicide is a desirable alternative, the impression may be given that the doctor could at some point work toward that end. In the same hand that cures may also kill, the patient may begin to assume ulterior motives.

The doctor is placed in a very difficult situation in trying to determine if he or she should administer the death causing agent. In rural communities where doctors may personally know the relatives of the dying patient the pressure from the family, either real or merely perceived, could place unfair stress upon the physician. It may also place the physician in the middle of family disputes and cause a substantial risk in regard to malpractice suits if a decision is made over the objections of even one close relative.

A second major concern is that patients may not feel entirely free to resist a suggestion from the physician or from family that suicide would be appropriate. On the one hand the patient may bow to the medical judgment of the physician whose advice he or she has come to accept unhesitatingly because of the years of medical care received. On the other hand the patient may feel an obligation to spare their families the emotional and financial burden of their care. In short, instead of helping the infirmed and elderly, doctor assisted suicide creates another burden to those who are already enfeebled by disease or age.

A third concern is pragmatic. It will be very difficult to determine if a competent decision is being made. Drug treatment and the progression of disease are bound to impair decision making capacity. The decision may be the result of mental depression that needs to be treated. Some patients change their minds. How is the doctor to tell if a firm decision has been made?

Doctor assisted suicide is of course incompatible with our Christian paradigm. It violates the commandment not to murder. Except for justifiable war, self defense and capital punishment, the taking of human life is expressly forbidden. It denies the sacredness of human life.

As Christians we too can talk about human dignity and autonomy. As image bearers we have an inherent dignity that rests in our special status in the created order. We are also given autonomy, as in the right to govern ourselves. The freedom to choose this right even over our allegiance to the creator has been part of our heritage from the very beginning. It is not that we as Christians do not believe in human dignity or autonomy. In fact we, unlike our secular contemporaries, have a foundation on which to base our beliefs, the Bible. But the real question is whether or not the legalization of doctor assisted suicide will enhance human dignity. It is the position of this writer, for the reasons stated earlier, that legalizing physician suicide does not help human dignity.

Environmental Ethics

Both in vitro fertilization and doctor assisted suicide are biomedical ethical issues. But our modern world faces bioethical issues brought on by modern technology in other fields as well. Particularly, the environment is a hot topic today and one that evokes a strong response from those who believe humankind is in danger of destroying the biosphere or of at least making it uninhabitable for many species, particularly our own.

Discussion on deforestation of the rainforest and the depletion of the ozone layer is bound to prompt a plethora of opinions with little agreement on what should be done or how we ought to proceed. What if anything do Christians have to add to the debate? Or is this merely a secular issue outside the scope of our interest and influence?

Christianity has often been accused of being the main source of environmental problems. This was first proposed by Lynn White in his 1967 essay "The Historic Roots of Our Ecological Crises." His conclusion was that "Christianity is the most anthropocentric religion the world has ever seen" (Wilkinson 1991, 276-77). Our paradigm disagrees. The creation is not to be conquered and subjugated as a threat to the Lord. It is in fact "good" and while there is need for it to be ruled, it must also be tended and cared for.

Considering our Christian paradigm, we should have a lot to say about the way we treat the environment. As "keepers" of the earth we should be vitally concerned about its health. This is another of the tough bioethical issues facing modern humankind. For most of human history we have been endangered by the environment. Natural disasters have claimed countless numbers of human lives. But in modern times new technologies not only have given us some measure of ability to predict environmental disasters, they have given us the ability to be a threat to the ecosystems that for so long have been a threat to us.

In *On Behalf of God* Reichenbach and Anderson discuss ethical tensions that face stewards (Reichenbach and Anderson 1995, 56-66). These come out of two seemingly contradictory obligations. The first is to preserve what the owner already possesses and the second is to make changes in what is entrusted in our care. Like the steward of Matthew 25:14-30, we are asked to look after His capital. If we only preserve what has been given us we will not fulfill our duties. We must also bring a profit to the owner; we must bring change to improve what we have been entrusted with. This raises five difficult questions.

First, what are we obligated to change? It seems that we should change whatever negatively affects human existence. This would include ways to improve agriculture, the control of diseases, the regulation of waterways to prevent flooding, etc. But what gives us the right to make changes to benefit humankind? Again it is our paradigm from the Genesis account of creation. God made us in His image and we are more than the rest of creation. He has breathed into us the Divine breath:

He places him in the fecund park, gives him the fruit of the trees for food, and even marshals the animals for him to name. It is not hubris, then, to hold that change should benefit humans as well as the Landlord. The precedent is found in our paradigm. (Reichenbach and Anderson 1995, 58)

But Reichenbach and Anderson maintain that it is not only the world that we can change to benefit the Landlord. We can also change humankind. We can alter the way we confuse wants with needs and reduce our demands on the biosphere. We can move away from using energy that pollutes our environment. And we can take better care to include ecologically sound food in our diets.

The second question is whether changing the environment is not only permissible but obligatory. Again the parable of the steward in Matthew 25 teaches that change is expected by the Landlord. Our mission is to show improvement. But we should be cautious to remember this change includes us. It is often easy to change those things that are around us to benefit ourselves, but we are also called to do the sacrificial thing and change ourselves in order to benefit the Landlord and that over which we rule. We should consider how we might alter our lifestyles to be more environmentally friendly. This would involve many things from paying more careful attention to the kind of packaging we are using to limiting our fossil fuel consumption.

The third question is: for what purpose are we to change creation? What can God gain from our investments? What brings Him profit? While Reichenbach and Anderson admit that classical theology holds that God creates not out of His own need but out of fullness and that He does not create to acquire, they maintain the relation between God and His creation is reciprocal "each

contributes in significant ways to the other" (Reichenbach and Anderson 1995, 61). So while classical theology teaches that creation does not add to God's goodness but that the goodness in the world emulates God's goodness, Reichenbach and Anderson believe God's own self-realization is found at least in part, in the realization of His creation. The creation somehow adds to God's ongoing life.

Unfortunately these authors make God out to be something less than God. Nothing can contribute to God because there is nothing that He needs. We cannot add anything meaningful to the infinite. God's profit is not that He gains from creation but that His creation gains. It is to His glory that we change creation. It is to His glory that we act as stewards. His profit does not benefit Him it "profits" Him only in the sense that more praise and honour will be given Him by His creation.

While Reichenbach and Anderson refer to the steward's obligation to bring about God's good, I prefer to say it is to bring glory, praise and honour to God. They are right to say science and technology are not value neutral, they do have an obligation and they should have concerns about the appropriate ways they bring about the glory of God. They have teleological and deontological concerns.

What are the limits of the change? This is our fourth question. In the Genesis account God announced that His creation was good. It was orderly, it was harmonious and it was able to do what God intended it to do. The fall of humankind and the resultant evil that entered the world disrupted this goodness. It follows then that we should be involved in change that helps to bring order, harmony and purpose back to creation.

It also follows that there are things that we should not do since they will lead in the opposite direction. Or perhaps there is too great a risk that they will lead in the opposite direction. An example would be certain types of genetic research that may lead to unleashing new forms of disease. This is one of the most difficult questions of our generation. What we "can" do and what we "ought" to do are often at odds.

The fifth and last question our paradigm asks is: What are the risks? Are there limits to the risks God takes or we should take? Our authors maintain that God is a risk taker. They disagree with those who hold that God is not a risk taker because He knew everything that would happen in the world even before He created it. They also dispute those in the Reformed tradition that believe God foreordained the existence of every creature and the performance of every action. For them there are no risks and no surprises, because God knows all the possibilities and controls everything.

Reichenbach and Anderson believe the Bible portrays God as a risk taker. He expressed disappointment in Adam and asked: "Where are you?" He later asks of Cain: "Where is your brother?" When the wickedness of humankind becomes great he is sorry He created them. With Noah and his family He tries again and is again disappointed in the outcome.

The creation of humankind from the very beginning is fraught with risk because we are given the ability to obey or disobey. Reichenbach and Anderson are right in saying God takes risks. While God knows the future there is a sense in which while knowing the future He allows humankind to make choices that will go contrary to His best intentions for us. Scripture depicts God as one who responds to our actions. There is a mysterious relationship between predestination and human freedom. God is all knowing yet humans are free to act. Somehow, in a way that seems beyond our comprehension, He maintains our freedom while preserving His sovereignty.

As His stewards we are free to take risks. We may think we are free to risk everything within our reach but in the creation account after the fall Adam and Eve were forbidden immortality and this

implies God does place limits on what we are to have. Some things are His and His alone to give and are beyond the reach of human technology. We must also be concerned that we bring benefits to the earth we are to care for.

Those who hold a naturalistic explanation for the earth would disagree with our contention that the earth needs stewards. They would insist that the world does not need supervision. It has existed for billions of years and will continue to exist with or without humankind. But this view also presupposes that there is no creator. No one has directed the ordering and functioning of the earth, it is only the result of chance. Our theistic worldview may not be a scientific hypothesis because it cannot be falsifiable but it can be argued on scientific grounds. The probability of the earth existing without design or a designer is so unlikely as to be unbelievable. Nor can the naturalists prove their presupposition that the universe originated spontaneously. It is a philosophical presupposition and is beyond the realm of scientific investigation.

Applying our stewardship paradigm to environmental issues, our ruling must consider not only the benefit of the rulers and the One on whose behalf we rule, but also the good or benefit of that which is ruled. The creation also has value bestowed upon it. It was proclaimed "good" by the Creator and therefore has value in and of itself. We are to act in the interest of all three parties: God, human beings, and nature. We cannot justify raping the earth because of the biblical injunction to subdue it. Exploitation is immoral.

Some of the more radical environmentalists would say that nature has the same moral standing as humans. A human life has no more value than the life of a spotted owl. To believe so is to be guilty of "speciesism."

'Speciesism' (another new word) says that human beings are merely one more part of the web of life, with no greater rights than bears, trees, or rocks. When we make slaves of other living things (chickens, cows, redwood trees) and force their life to serve our purpose, we are (so this argument goes) as guilty of 'speciesism' as other people have been guilty of racism by making fellow humans slaves. Ecojustice demands that we right such wrongs. An influential 'animal rights' movement is the most vocal evidence of this dimension of the new ecojustice. (Wilkinson 1991, 330)

Ecojustice would contend that human suffering is just the way of nature and we should not act to alleviate it if we have to sacrifice other creatures. Our paradigm sees human life of greater worth because of the image of God. But we must also consider our responsibilities to care for the earth. We are to seek the preservation and conservation of species. We should also work at limiting our demands upon ecosystems by implementing appropriate lifestyle changes.

Our injunction to fill the earth has importance for the diversity of species. Diversity is necessary for ecological reasons. Each species fulfills its niche in the ecosystem. Of the 900 species of figs in the tropics, each one is pollinated by its own species of wasp (Reichenbach and Anderson 1995, 107). Reichenbach and Anderson point out that Thomas Aquinas has argued that diversity is desired by God. He desires the universe to be diverse to manifest His goodness (Reichenbach and Anderson 1995, 107-108). They also remind us diversity is necessary for aesthetic reasons and not only for our own appreciation for even God may enjoy the beauty of a diverse environment.

Considering our paradigm, what should we do about the tropical rain forests? We could side with those who call for a moratorium on all logging in the sensitive areas. But moratoriums rarely work, especially when we have not alleviated the conditions that have given rise to the destruction. Reichenbach and Anderson answer the question this way:

The forests are to be *ruled*, not as mere servants of human need and whim, but as things that have a unique value given to them by God, as things that have interests and can be benefited and consequently deserve both respect and appropriate human action for their benefit. Forests are to be *cared for*, both for their own good and for ours. In this respect, conservation provides the moral middle ground between rapaciousness (which fails to acknowledge the moral standing of the forests and their inhabitants) and mere preservation (which fails to see that morally the forests can provide for human benefit as well). Stewardship means that humans have a responsibility to see to it that forests survive in their diversity and that they survive in ways that benefit present and future generations of organisms and of human beings-especially (but not restricted to) those persons who live proximate to those ecosystems. Some balance must be struck between the changes necessary to make the forests productive for humans and the preservation of those forests as an intrinsic part of nature's economy and ecology. And finally, forests are to be *filled* with the diversity that is necessary for their own ecological survival, for human survival and enjoyment, and for divine fulfillment. (Reichenbach and Anderson 1995, 108-109)

Conclusion

Humankind at the beginning of the twenty-first century is faced with an ever increasing number of bioethical choices. It seems with every new advancement new problems surface. Those of us who hold to a Christian paradigm at least have a foundation upon which to build our positions. Agreement will not be easy to obtain, it never is. But the process of debate among those who want to know the truth and who are committed to the author of all truth is a sign of the best kind of vitality.

We may not hear the final word on most of these issues until the coming of our Lord. In the meantime we proceed with caution as those caught between two worlds. One that is captivated but frustrated by the emptiness of a naturalistic view. And another which sees the guidelines but struggles to make the appropriate applications.