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Reviving the Saracen's Head

A Commentary on the New Biotechnologies

Dennis M. Sullivan, M.D., Joseph W. Francis, Ph.D., and James A. Sellers, Ph.D.

As World War II came to a close in Europe, Allied forces liberated France and the rest of Europe. Upon entering Nazi Germany, the horrors of the Third Reich, previously hidden under cover of war, became terribly evident. Beginning in 1939 with “mercy killing” of the sick, disabled, and mentally retarded, the Nazis systematically exterminated all those who did not fit into their vision of the “Glorious Fatherland.” By the end of the war, their experiment in eugenics and social engineering had encompassed any who were not of Aryan descent, including Jews, blacks, and Gypsies (Holocaust Timeline, 1998)(“The History Place: Holocaust Timeline,”). The folly of such scientific elitism was dramatically made clear with the death of six million Jews, and untold millions of others.

In 1946, C.S. Lewis wrote *That Hideous Strength*, partly in reaction to the flawed scientific philosophy of the Nazis. The book focuses on man’s attempts to control nature and to redefine the very essence of man. A central metaphor of the book is the “Saracen’s Head,” a nightmarish vision of an immortal, decapitated head, kept alive by biotechnology:

It tells us something in the long run even more important, said the Director. It means that if this technique is really successful, the Belbury people have for all practical purposes discovered a way of making themselves immortal . . . It is the beginning of what is really a new species -- the Chosen Heads who never die. They will call it the next step in evolution. And henceforward, all the creatures that you and I call human are mere candidates for admission to the new species or else its slaves -- perhaps its food (Lewis, 1965, 197).

The Saracen’s Head speaks of the horror hidden behind materialist philosophy and eugenics. It is symbolic of man’s desire to use biotechnology to achieve the ultimate control of the environment: his own immortality.

In this paper, the metaphor of the Saracen's Head will provide a philosophical and historical framework from which to examine recent advances in biotechnology in the areas of genetics, embryology, and human reproduction. We will conclude with some additional comments from a theological perspective.

Background of the Saracen's Head

That Hideous Strength is actually the third in a fantasy trilogy, which began with *Perelandra* and *Out of the Silent Planet*. This final volume in the series describes the insidious attempt by a well-organized scientific faction to take over control of Bracton College, a small undergraduate college in England. On the surface, the members of this group seem to be kind, reasonable, and even-handed. In fact, their organization is called N.I.C.E.:

The N.I.C.E. [National Institute of Coordinated Experiments] was the first-fruits of that constructive fusion between the state and the laboratory on which so many thoughtful people base their hopes of a better world. It was to be free from almost all the tiresome restraints -- "red tape" was the word its supporters used -- which have hereto hampered research in this country (Lewis, 1965, 23).

In this context, of course, "red tape" is a euphemism for moral constraints. And so the kindly and beneficent members of N.I.C.E. gain financial control over Bracton. Their well-meaning appearance contrasts sharply with their goal: an elitist transformation of society, with "the next step of evolution" in mind.

Lewis epitomizes this contrast with the striking image of the Saracen's Head. This metaphor is derived from the distinguished Arab radiologist "who had cut short an otherwise brilliant career by poisoning his wife." Because of his crime, he was executed by guillotine. Somehow, N.I.C.E. obtained the severed head and reanimated it through advanced medical technology:

[It] was a head . . . which had had the top part of the skull taken off . . . as if something inside had boiled over. A great big mass which bulged out from inside what was left of the skull. Wrapped in some kind of composition stuff, but very thin stuff. You could see it twitch . . . It was green looking and the mouth was wide open and quite dry . . . It was fixed up on some kind of bracket, or shelf . . . it had a neck and a sort of collar thing round it, but nothing below the collar; no shoulders or body.

Only these hanging things . . . they were artificial. Little rubber tubes and bulbs and little metal things too . . . All the tubes went into the wall (Lewis, 1965, 181-182).

The men and women of N.I.C.E. are initially presented as kindly, almost loving people. Through his nightmarish image, Lewis transforms them into a horrible and evil force. In reality, the ulterior design of N.I.C.E. is a coercive transformation of the human race.

Many scholars regard *That Hideous Strength* as a fictional parallel of ideas Lewis put forth in a series of lectures, compiled into a book entitled *The Abolition of Man*. In *Abolition*, Lewis expresses his deep concern over the effects of scientific technology on personhood. He writes, "What we call Man's power over Nature turns out to be a power exercised by some men over other men with Nature as its instrument." Again he proclaims, "Man's final conquest has proved to be the abolition of Man (Lewis, 1947, 69, 77)." Both *The Abolition of Man* and *That Hideous Strength* serve as a warning that the use of biotechnology without moral restraints may result in great evils for mankind.

It is worth noting that a major theme of *Abolition* is education. Understanding how technologies work and how they are used is an important first step in heeding the warnings presented by the ominous Saracen's Head. In this light, we will now discuss recent technological developments and consider their implications.

Questions Raised by Recent Developments in Genetics

The realm of genetics has provided the background for considerable ethical debate and speculation in recent years. For example, Columbia Pictures' recent movie "GATTACA" depicts a future society in which the current explosion of genetic information is taken to a logical extreme. In a not-so-distant era, scientists have developed the ability to take small scraps of human tissue, such as hair, fingernails, or buccal mucosal swabs, and instantly determine the DNA sequence of that person's genome. Only the "genetically perfect" are able to get top-paying jobs, and those with a high risk of certain diseases are the outcasts of society.

The movie's protagonist is a man who, against the normal mores of his society, has been conceived by natural means. He states, "My mother put her faith in God rather than the local geneticist." Because of a genetically defined high risk for heart disease, he is declared an "Invalid," a member of a class of people considered unfit for any but the most menial of jobs. In reality, discrimination based on DNA sequence information is supposed to be illegal, but such laws are impossible to enforce.

It is hard to dismiss such a pessimistic view of the future of biotechnology as mere science fiction. In fact, the origins of such a scenario are already in place. In 1988, the federal government of the United States launched a massive research project called the Human Genome Initiative. This project is an international, multi-billion dollar laboratory exercise to map the exact location of every gene and its underlying code in human DNA. With approximately three billion letter-like codes to decipher, it is a phenomenal task, but one in which great strides have already been made. The genes responsible for certain devastating diseases have already been located.

With increased knowledge, however, comes increased responsibility. How will the knowledge of the genetic structure of man be utilized? Certainly an acceptable scenario would be the use of the new information in post-natal genetic counseling. The parents of children with genetically derived diseases, such as sickle-cell anemia or Tay-Sachs disease, can be advised of their chances of conceiving other such affected infants.

However, presently there is no cure for diseases diagnosed during the prenatal period by genetic screening. Upon finding a genetic abnormality, the "treatment" of choice is usually abortion of the fetus (Meilaender, 1996). In contrast to the historical tradition of curative medicine, such "treatment" involves the obliteration of the patient.

At this point, an important distinction should be made. There are some *developmental* abnormalities that may be detectable at a prenatal stage. These should be contrasted with strictly genetic diseases. An example is hemolytic disease of the newborn, which results from anti-Rh antibodies of the mother (who herself is Rh-

negative) attacking an Rh-positive fetus. This may be treatable by an exchange transfusion performed *in utero*. This has already been attempted, with varying degrees of success. Even fetal surgery has been attempted for some types of developmental disorders. An example is hydrocephalus, where it is now possible to perform a shunting procedure prior to birth to reduce the potential for devastating brain injury before it occurs. Though still a matter of ongoing research, it seems reasonable to cautiously welcome such possibilities (Pringle, 1989).

Yet, in diagnosing *genetic* conditions, the prevailing “treatment” option continues to be abortion. A counterargument can be made that prenatal detection of genetic abnormalities simply allows better eventual treatment of the affected infant. However, the record of prenatal testing indicates that it most often leads to an abortion if the results are abnormal. Some of the conditions diagnosed in utero include neural tube defects (anencephaly and spina bifida), Down Syndrome, Turner's Syndrome, and Tay-Sachs Disease. Some of these diseases carry a grave prognosis, while some of these conditions may not be as debilitating. Yet, if detected by prenatal screening, most of these lives are ended by abortion. Given the current state of prenatal treatments for some conditions, it is ironic that the unborn child can be both patient and non-person at the same time.

As genetic knowledge and technology grows, it is not too difficult to imagine a world like that of the movie “GATTACA.” Gender selection has already led to infanticide in such countries as China, Vietnam, and India. In a future era, not only gender, but also height, hair color, tendencies towards obesity, and a host of other factors could form the basis for selection of “acceptable” fetuses.

It is precisely because of the abuses that already exist that Christians should take a very skeptical view of prenatal genetic screening. Meilander has rightly said:

Because we know we should learn to love others as we have been loved, Christians ought to set themselves against prenatal screening, at least as it is currently practiced in this country in an increasingly routinized way. For it stands in conflict with the virtue that would say to another: “It's good that you exist (Meilaender, 1996, 49).”

On another front, technological developments in genetics may soon make it possible to manipulate the human genome itself. Generally, a distinction is made between somatic cell therapy and germ cell therapy. Somatic cell therapy involves introducing altered pieces of DNA into human somatic (non-reproductive) cells, perhaps by the use of a virus. The goal is to alter or replace a missing or defective gene, in order to treat a genetic disorder. Early trials of such techniques have already been attempted, and have met with limited success.

Similar techniques are also feasible with germ cells (reproductive cells), but this would have significant moral and ethical ramifications. Such an attempt goes beyond treatment of the individual, in that it has consequences for subsequent generations, with many potentially disastrous results. While somatic cell therapy is considered by most to be acceptable, germ cell therapy is generally regarded as dangerous and unethical.

Yet even this barrier may not be absolute. W. French Anderson, director of the University of Southern California's gene therapy laboratory, says, "Powerful techniques have powerful downsides." He predicts that germ line cell manipulation is inevitable, because "no parent will willingly pass on lethal genes to their children if they can prevent it (Weiss, 1998)." While many would disagree with Anderson, such a utilitarian argument is becoming increasingly accepted in the debate.

The Saracen's Head image summarizes these serious moral concerns. Lewis envisioned and feared the utopian elitism that might arise through abuse of social engineering and biotechnology. He never lived to see prenatal genetic screening, let alone the possibility of manipulating the very genome itself, but he witnessed the moral equivalent in the eugenic agenda of Auschwitz, Buchenwald, and Dachau. He saw the selective elimination of "life unworthy of life" by the Nazis. Unaware of the coming revolution in genetics, Lewis nonetheless correctly predicted many of its dangers, and he depicted them as a horrible, morally terrifying Saracen's Head.

Questions Raised by Recent Developments in Embryology

Embryology has helped to answer some very basic questions about the nature of man, yet it remains one of the least understood and most mysterious of the biological disciplines. This is because embryogenesis is truly an amazing and miraculous process that results in the formation of a complete, complex multicellular living organism from a single fertilized egg. Great strides in understanding this process have occurred in the last few decades, largely due to advances in the techniques of cell biology.

Embryological development begins with the fertilized egg. This is a specialized cell containing the information to make all of the various organs and tissues which will develop from it. Once the fertilized egg (zygote) divides, the resulting multi-celled stage is referred to as an embryo. Implantation of the embryo into the wall of the uterus occurs at seven to ten days after conception (Ahokas, 1998).

Conception, defined as fertilization of the egg, has historically been considered the beginning of life. Yet there has been an attempt, in recent years, to redefine the point at which human life begins, an attempt driven more by social ideology than science. This is not simply a philosophical question, for society must understand how far to extend the right to life. Devaluation of life is rampant in society, yet there is still a belief that life, at some stage, is inviolable. The question then becomes: When is life protectable?

Concerning the beginning of life, one can point to many stages that may hold significance. Such stages include conception, implantation, the transition between the embryo and the fetus, brain wave activity, the old notion of “quickening (when the mother first feels the baby),” and birth itself. Is the individual protectable at each of these stages? Legally, no. The judicial system in the United States has relied heavily on “viability outside the womb” as its criterion for when the developing fetus has the legal status of a person. This was certainly the case in the landmark *Roe v. Wade* decision of 1973 (Roe, 1973).

Yet viability has proved to be a moving target. Technology continues to push back the moment at which an infant can survive outside the protective environment of the uterus. The limit was once 32 weeks after conception, but has dropped into the range of 25-27 weeks with the use of surfactant, the detergent-like chemical that aids the flexibility of lung tissue (Peabody and Martin, 1996). With high frequency respirators and other newer technologies, survival may routinely be possible by as early as 24 weeks (Chervenak and McCullough, 1997). Furthermore, the entire viability argument may no longer have the same meaning, as an artificial uterus looms on the horizon as a real technological possibility (Lupton, 1997).

These changing possibilities highlight the difficulty of defining protectable human life at any arbitrary moment of gestation. Francis Schaeffer suggested addressing the question this way: "Would you kill this infant a minute before he was born, or a minute before that, or a minute before that? At what point in time can one consider life to be worthless and the next minute precious and worth saving (Schaeffer & Koop, 1979, 37)?"

The only minute that represents a true difference between protectable life and life of less value is the moment of conception. The gametes (egg and sperm) are, biologically speaking, end-stage cells. By themselves, they have lost the ability to divide again. One of the defining characteristics of life is the ability to reproduce. Therefore gametes, by these criteria, are not fully "life." However, the zygote is fully alive, and has the potential to reproduce. No other stage of life has this type of significance. Implantation and birth are essentially movement of the individual to a new position. There is no addition of genetic information. The full genetic program was already in place at the moment of conception.

The foregoing will be no surprise to those who hold to a conservative position on the questions of abortion and the right to life. Yet recent technological developments have again blurred the distinction between protectable life and "life not worthy of life." In vitro fertilization techniques have now been developed to help infertile couples realize their goal of having children. Eggs removed from a woman's ovaries are fertilized in a test tube by sperm from her partner. The fertilized eggs are then placed into the uterus of the woman. In some cases, the

sperm and/or egg may come from other donors, anonymous or known, outside of the marriage bond (this, of course, further separates the whole concept of parenthood from sexual union).

After fertilization by in vitro techniques, but before insertion into the uterus, the developing embryo is in a "state of limbo." This is a state unique to the technological era in which we live. Since multiple eggs and multiple sperm are involved, multiple embryos are produced, only a few of which are ever implanted. A variation involves the implantation of multiple embryos, with "selective reduction (destruction)" of some to improve the survivability of those that remain. In any case, unimplanted embryos are frozen for later implantation, but are often discarded. In some parts of the world, such "left over" embryos may be subjected to experimentation and biotechnological research (Morgan and Lee, 1991, Thompson et al, 1998).

Is this a violation of life similar to abortion? Although Christians may differ on this issue, most would agree that life is sacred at any point of its existence. Therefore, it is important to understand the moral and ethical status of such embryos. Some writers would make a distinction between the terms "preembryo" and "embryo," with the former referring to the developing organism prior to implantation. However, this may well be a euphemism to permit morally unjustifiable actions. One legal scholar has said, "A legal and ethical consensus is emerging that preembryos are not legal persons or moral subjects (Robertson, 1992)."

The internationally acclaimed geneticist Jerome Lejeune believes the term "preembryo" should never be used:

[The term embryo] was accepted the world over for more than fifty years by all the specialists of the world, and we had no need at all of a sub-class which would be called a preembryo, because there is nothing before the embryo. Before an embryo there is sperm and an egg, and that's it. And the sperm and an egg cannot be a preembryo because you don't know what sperm will go into what egg, but once it is made, you have got a zygote and when it divides it's an embryo and that's it. I think it's important because people would believe that a preembryo does not have the same significance as an embryo (Lejeune, 1992, 38).

This euphemism has already had its effect in Great Britain, where research on human "preembryos" up to fourteen days old is already taking place (Morgan & Lee, 1991). This date, occurring *after* the time of

implantation (7-10 days), has been arbitrarily assigned by scientists, and approved by the British Government, to be the point at which protectable human life begins.

Lest this be thought of as a trivial distinction, it is worth noting the power of euphemism in affecting the popular moral compass. In the past, one justification for medical experiments performed on people was that those involved were less than human or did not have the "significance" of a human being. For example, the Nazis labeled Jews as unfit or "useless eaters." Is there any doubt that British scientists are invoking the same principle in regard to embryos?

In the United States, there is currently a ban on federal funding for research on human embryos. Nonetheless, such research has been conducted in the private sector. Recently, two independent teams of researchers isolated and cultured human embryonic stem cells. Stem cells are immature cells that have the potential to develop into any type of tissue in the human body. As of yet, the chemical "switch" to direct these cells to develop into specific cells is undiscovered. If found, this would provide a means to grow any type of human cells. For example, cultured heart cells could be used to replace cells lost from myocardial infarction (Miller and Bloom, 1998; Marshall, 1998).

There is only one catch to this rosy picture: the cultured cells came from donated human embryos, the unused or "discarded" embryos left over after in vitro fertilization. Because there is great potential for good, additional pressure will be applied to overlook any ethical concerns, another strictly utilitarian scenario.

The concept that implantation defines the beginning of life has been utilized in more subtle ways. Because of the furor over the French drug RU-486, the so-called "abortion pill," the Federal Drug Administration has delayed its approval for use in the United States. As an alternative, in September 1998, the FDA granted permission for a "morning after" kit that would "prevent" pregnancy for up to three days after unprotected sexual intercourse. The pills contain estrogen and progestin, which may prevent ovulation if it has not yet

occurred, or may prevent implantation of a fertilized ovum. In regard to the latter, the prevailing wisdom is nonetheless that the emergency treatment prevents pregnancy. Princeton University's "Emergency Contraception Web Site" proclaims:

[The] use of emergency contraception does not cause an abortion. In fact, emergency contraception prevents pregnancy and thereby reduces the need for induced abortion. Medical science defines the beginning of pregnancy as the implantation of a fertilized egg in the lining of a woman's uterus . . . Emergency contraceptives work before implantation and not after a woman is already pregnant (Princeton University, 1998).

The scholarly New England Journal of Medicine concurs:

Although the precise mechanism of action of estrogen-progestin emergency-contraceptive pills is unknown, they clearly can block ovulation. However, even if emergency contraception worked solely by preventing the implantation of a zygote, it would still not be an abortifacient. Pregnancy begins with implantation, not fertilization. Medical organizations and the federal government concur on this point (Grimes, 1997).

Arthur Caplan, a prominent bioethicist and Director of the Center for Biomedical Ethics at the University of Pennsylvania, also seems willing to concede on this point, calling emergency contraception "a tremendous ethical advance:"

Emergency contraception is just that: contraception. By delaying a woman's ovulation, the odds of pregnancy occurring are greatly diminished. However one views abortion, the prevention of pregnancy is ethically better than ending a pregnancy (Caplan, 1998).

Advances in technology are leading to a redefining of ethical concepts, rather than being guided by them.

Amazingly, there are prominent voices that would go even farther in an attempt to redefine personhood.

Recently, the Australian ethicist Peter Singer was appointed to an endowed chair at Princeton University. World Magazine has reported of Professor Singer:

Singer believes that since infants are not "rational and self-aware," they should not be considered human until they are at least one month old. Up to that time, they could be killed. Newborn babies have, to use his analogy, the same moral value as snails. As "non-persons," they are "replaceable," much like chickens and other farm animals (Veith, 1998).

Singer advocates that not just babies, but many of the disabled and unwanted should be killed, using “active eugenic euthanasia” for everyone whose “life is not worth living (Veith, 1998).” This is a chilling echo of “life unworthy of life.” This does not imply that active eugenics is the practice or even the preference of most in the bioethics community. Even so, such a redefined concept of personhood should cause great concern to those who hold to a conservative Christian worldview.

It is here that the Saracen once again rears his ugly head. The utopian elitism of uncontrolled genetic manipulation has now given way to the slippery slope of declining personhood. Only those deemed fit for existence are permitted to survive. In *That Hideous Strength*, the reasonable sounding Lord Featherstone outlines his rationale for the Saracen's Head: “Man has got to take charge of man. That means . . . sterilization of the unfit, liquidation of backward races (we don't want any dead weights), selective breeding. Then real education, including prenatal education (Lewis, 1965, 42).”

Long before the revolution in embryology, and long before the ready access to abortion, Lewis foresaw the urge to tinker with humans in the womb, and feared the resulting loss of personhood.

Questions Raised by Recent Developments in Human Reproduction

In February 1997, a new technology emerged on the world scene that will shape the nature of bioethical debate for years to come. The Scottish scientist Ian Wilmut cloned a mammal for the first time in scientific history. He achieved this by transferring nuclear DNA from a somatic cell of an adult sheep into an egg from which the nucleus had been removed (Blacksher, 1997). The result was a new sheep, nicknamed Dolly. Conservative columnist George F. Will immediately voiced the warning that scientists would attempt to apply such techniques to humans:

The biotechnology of cloning turns out to be remarkably simple, meaning it is accessible to scientists with training that is not especially recondite. And apparently there is no practical impediment to cloning the human animal. If freedom is the silence of the law, Americans are free to try it. And the bioethical

code adopted by European nations, forbidding genetic experiments that would alter human generations, will inhibit only the conscientious (Will, 1997).

Indeed, there are indications that scientists will attempt any technically feasible experiment, regardless of ethical considerations. In January 1998, physicist Dr. Richard Seed caused a national furor when he announced that he would open a commercial cloning clinic in Chicago. "God made man in his own image," he declared, "God intended for man to become one with God. Cloning . . . is the first serious step in becoming one with God." He later added, "man will develop the technology and the science and the capability to have an indefinite life span (Nash, 1998)." Quickly, President Clinton announced a five-year ban on human cloning research, and the Federal Drug Administration declared such research a violation of federal law.

The original goals of cloning research were, of course, reasonable from an ethical point of view. The researchers who cloned Dolly started out with the idea of making animals that produce human proteins, such as alpha-1-antitrypsin, which is used to treat cystic fibrosis. Cows could be genetically created which produce human antibodies in their milk. Cloning techniques could even be utilized to trick an adult cell into becoming another type of cell. This could conceivably lead to compatible reservoirs of skin for grafts in the treatment of burns, or even to the growing of whole kidneys for transplant (Fox, 1998).

Yet combining cloning with the previously mentioned advances in embryology could lead to great abuses. Some have suggested that cloning may provide a continuous private supply of non-rejectable, transplantable organs. In other words, parents could have their child cloned and freeze the resulting embryo. If the child experienced a need for an organ donation at some time in his life, the sibling could be unfrozen and brought to term to provide the organ. This, of course, would mean death for the clone, if a vital organ like the heart were required. This is essentially premeditated eugenics.

If this seems extreme, it should be observed that family planning to harvest the body parts of siblings has already occurred. In 1990, a couple had a baby for the sole purpose of providing a bone marrow transplant for their daughter (Grogan, 1990). No lives were lost, and the transplant was apparently successful.

Another interesting aspect of cloning is that each time man tries to recreate human life, he is forced to go back to conception as the starting point. Cloning is not a "carbon copy" in the sense that all 70 trillion human cells are copied and put back together to make an individual. Cloning is a *reproduction technique* that involves restoration of the diploid condition to the chromosomes of an egg cell, which is exactly what occurs during fertilization through sexual union. It is conception, albeit a very unnatural form, and it is the point at which a new life begins.

In the realm of scientific experimentation, the technical ability to do something often becomes its own rationale:

"I can do it, therefore I will, never mind whether or not I should." C.S. Lewis satirizes such fascination with technology in *That Hideous Strength*:

There are to be forty interlocking committees sitting every day and they've got a wonderful gadget -- I was shown the model last time I was in town -- by which the findings of each committee print themselves off in their own little compartment on the Analytical Notice-Board every half hour. Then, that report slides itself into the right position where it's connected up by little arrows with all the relevant parts of the other reports . . . The different kinds of business all come out in the Board in different coloured lights . . . They call it a Pragmatometer (Lewis, 1965, 38).

"Coloured lights" are one thing; human beings are another. In their apparent love affair with technical advances, it seems that some bioscientists will do anything. Surely the thoughtful observer must pause upon seeing recent headlines. Time magazine recently reported on work performed in two obscure labs, one at the University of Texas, the other at the University of Bath. One group created headless mice; in the other lab, headless tadpoles. Combining such techniques with cloning leads to a chilling scenario:

For sheer Frankenstein wattage, the purposeful creation of these animal monsters has no equal . . . Why should you be panicked? Because humans are next. "It would almost certainly be possible to produce human bodies without a forebrain," Princeton biologist Lee Silver told the London Sunday Times. These

human bodies without any semblance of consciousness would not be considered persons, and thus it would be perfectly legal to keep them 'alive' as a future source of organs (Krauthammer, 1998)."

The capabilities possible in the realm of biotechnology seem limited only by the imaginations of those who work in laboratories around the world. It is precisely because of the lack of moral constraints among some scientists that the image of the Saracen's Head is a valuable warning symbol to all who would enter the realm of biotechnology without restraint.

Reflections From a Theological Perspective

The metaphor of the Saracen's Head distills an entire worldview within an evocative image. It speaks a warning across the decades since World War II, and quickens the sensibilities and the conscience of the concerned Christian. From a biblical perspective, the horror of unrestrained use of biotechnology should be immediately obvious.

Yet, like the N.I.C.E. men of Lewis's novel, many scientists of today's world, fascinated by technology and anxious to advance their discipline, seem oblivious to these concerns. Appeals to conscience are an obstructive interference with their work. For them, the Saracen's Head is but one more appeal to the Frankenstein myth, a strident and hysterical cry by fundamentalists bent on halting legitimate scientific progress. Why do they have a difference in perception from conservative Christians? Do they not see the horror?

The difference may lie in the worldview conflict between God's sovereignty and man's stewardship. James Childress has expressed this conflict well:

Tension can be seen in the distinction between sovereignty over nature and stewardship of nature. Although the Christian tradition has sometimes engendered . . . attitudes of human sovereignty over nature, its dominant theme is human stewardship, deputyship, or trusteeship. While the sovereign is not accountable, the trustee is accountable to God and for what happens to nature (Childress, 1981).

The Christian principle of man's stewardship over nature begins with Genesis 1:26-28, where three key concepts are made clear:

- Man is unique, created in God's image and likeness.
- Man represents God's highest act in creation.
- Man is distinct and separate from the rest of the created order, in that he is to rule over it.

Notably absent from the list of things over which man is to rule is *himself*.

It should further be noted that man's rule (authority, dominion, governance) over nature is *derivative*. His authority exists only inasmuch as God Himself gives it. Psalm 8:6 expresses this well: "You [God] make him [man] to rule over the works of Your hands; You have put all things under his feet (New American Standard Bible)."

The current revolution in biotechnology has elements that seem in tension with the biblical role of humankind. Man, the created being with dominion over the rest of nature, begins to give way to man, the meddler, the tinkerer, who ultimately thinks of himself as creator. One of the N.I.C.E. technicians of the Saracen's Head describes this goal explicitly: "It is the beginning of Man Immortal and Man Ubiquitous . . . Man on the throne of the universe (Lewis, 1965, 178)."

The result is nothing short of idolatry. Men have stepped out of their role as caretakers of a divinely created world, and have taken on the role of God. They have ignored the natural revelation of the created order visible all around them, adopting instead the precepts of secular materialism. The condemnation of Romans 1:18-25 does not occur because men have rejected Christ as Savior, but because they have ignored the evidence of a Creator in the created order, so that they are "without excuse (Rom. 1:20)." As a result, "their foolish heart was darkened. Professing to be wise, they became fools (Rom 1:21-22)."

Romans 1:25 declares their ultimate offense: "For they exchanged the truth of God for a lie, and worshiped and served the creature rather than the Creator." Commenting on this passage, Whitmer has written: "Man's refusal

to acknowledge and glorify God leads to a downward path: first, worthless thinking; next, moral insensitivity; and then, religious stupidity, seen in idol worship (Whitmer, 1983).”

Perhaps Lewis had this portion of Scripture in mind in *That Hideous Strength*, when the hapless technicians of N.I.C.E. stand naked before an uncontrollable Saracen's Head: “No one had read the dials, adjusted the pressures, or turned on the air and the artificial saliva. Yet words came out of the dry gaping mouth of the dead man's head. ‘Adore!’ it said (Lewis, 1965, 354).”

Moral sensitivity has departed from some of those who practice science, creating a vacuum in the area of biotechnology where it is most needed, thus placing “Man on the throne of the universe.” The drift into atheistic naturalism that has so characterized modern science is beyond the scope of this article, but is perhaps best summed up by the attitude of Richard Dawkins, the preeminent Oxford zoologist, as quoted in the journal *Science*:

People who believe life came into being for a purpose are not only mistaken, but ignorant: “Only the scientifically illiterate accept the ‘why’ question where living creatures are concerned.” There is no evidence to support religion, and “nowadays the better educated admit it,” he said in his “against God” speech (Easterbrook, 1997).

It is no wonder that the Saracen's Head holds no horror for those who have abandoned all respect for a Creator-God. Yet it is at precisely this point that committed Christians must make their voices heard, that they might be the moral “salt and light” so lacking in this world.

Conclusion

This article has focused on a metaphor, a disembodied nightmare of biotechnology called the Saracen's Head. As scientists with a Christian worldview, we believe that the desire of man to be sovereign, combined with the use of newer genetic, embryologic, and reproductive technologies, has led to a violation of the sacredness and sanctity of human life.

Admittedly, the use of Lewis's metaphor of Nazi horror to describe current trends in biotechnology may offend some. We do not claim that current practices rise to the level of the abuses that took place during World War II. Yet we believe that some modern technologies, especially those that involve experimentation on human embryos and fetuses, promote a subtle revival of eugenic thought and practice. The Christian bioethicist Richard Neuhaus, in comparing some modern bioethical ideas to the Nazis, has said:

I am convinced that there are unmistakable similarities between what they did then and what we are doing now. They too asked and answered the question, Who shall live and who shall die? And, Who belongs to the community entitled to our protection? Then and now, the subject at hand is killing, and letting die, and helping to die, and using the dead. Then and now, the goal is to produce healthier human beings and, perhaps, a better quality of human being (Neuhaus, 1997).

As scientists, we believe that these concerns do not contradict our commitment to scientific research and the application of technology. Our stance merely reflects our desire to view all things in the light of scriptural truth. It is man himself that may be compromised by the abuses of biotechnology, altering the role for which he was originally created. C.S. Lewis comments on this in *The Abolition of Man*:

The real picture is that of one dominant age . . . which resists all previous ages most successfully and dominates all subsequent ages most irresistibly, and thus is the real master of the human species. But even within this master generation (itself an infinitesimal minority of the species) the power will be exercised by a minority smaller still. Man's conquest of Nature, if the dreams of some scientific planners are realized, means the rule of a few hundreds of men over billions upon billions of men. There neither is nor can be any simple increase in power on Man's side. Each new power won *by* Man is a power *over* Man as well. Each advance leaves him weaker as well as stronger (Lewis, 1947, 70-71).

In 1946, Lewis was certainly not a lone voice in his reaction to the Nazi horror. Yet where was the voice of dissent in 1939? One of the greatest indictments of the Christian Church is its silence during the rise to power of Hitler, and its refusal to condemn the policies of the Third Reich, with its eugenic killing centers and eventual extermination of Jews. An active and vocal Christian community in Germany may not have prevented the Holocaust, but might have been an example and inspiration to future generations, including our own.

Are we condemned to repeat the mistakes of the past, or will Christians speak out against the loss of personhood and the subtle modern-day revival of eugenics? All ethical reflection originates from a view that man is created

in the image of God, and therefore holds a special place in the eyes of the Creator. The Saracen's Head reminds us of the horrors of departing from such a view.

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