

COVALENCE

The Bulletin of the Evangelical Lutheran Church in America Alliance for Faith, Science and Technology

Volume III, Number 3

“Life and Death” Issue

Second Quarter, 2001

DEATH IN A HIGH-TECH AGE

George Murphy, Ph.D.

Introduction

It is now a cliché to state that advances in bio-medical technology have produced new ethical questions as well as improvements in the quality of life. It can be a blessing to sustain life in new ways, but problems arise when there is no realistic hope for health or, in some cases, even consciousness. To what extent should life then sustained by technological means? Many people today have had family members with terminal illnesses or injuries which have forced them to deal with this question and clergy often have to minister in such situations. The desire to end what may seem like pointless prolongation of suffering by life support technologies has led to laws or proposed laws allowing physician-assisted suicide in the United States and overseas.

Ethical questions about maintenance of life are not new, but many people today are not satisfied with long-accepted answers. Attempts to address these problems with traditional moral codes are often unsatisfactory because modern life-support systems and the attendant questions were unknown when these codes were set down (e.g., the Bible does not tell us at what point physiological death occurs). But attempts to follow purely situational ethics runs the risk of simply accepting the most comfortable or convenient course of action.

I suggest that a Christian response to these questions does not require a totally new approach to ethics. Rather, a deeper reflection on old, but fundamental, themes of Christian theology will shed helpful light on the new bio-medical technology. The theology of the cross and the associated doctrine of justification can make crucial contributions to an adequate understanding of uses of technology at the end of life.

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BIRTH IN A HIGH-TECH AGE

George Koch, D. Min.

As infertility rates continue to climb (see editorial, page two) the variety of treatments for infertility continue to expand. Here are two of the latest techniques:

1.) Germline Modification

As reported by the British Broadcast Corporation (BBC) News Online Science Editor, Dr David Whitehouse, on May 4, 2001, American scientists have confirmed that up to thirty healthy genetically altered humans have been born. Tests done on two infants confirm that they have a small quantity of additional genetic material not inherited from either parent.

Eggs from women with infertility problems were injected with the mitochondria of healthy women through a technique known as *ooplasmic transfer*. This involves taking mitochondria of a donor cell and injecting it into the egg cell of a woman with infertility problems. This is because researchers at the Institute for Reproductive Medicine and Science of St Barnabas in New Jersey, US, believed that some infertility in women is caused by defects in their mitochondria.

Mitochondria are essential to cellular energy production and may have other important, but as yet unknown, functions in living cells. While humans receive half of their cellular DNA from each parent, mitochondrial DNA is passed only through the maternal line.

The children born through this technique now have additional genetic material from a second “mother”, the donor of the mitochondrial DNA. The additional genes that the children carry have altered their germline, or their collection of genes that they will pass on to their offspring. As the researchers wrote [in *Human Reproduction*], this “is the first case of human germline genetic modification resulting in normal healthy children.”

2. “Manufactured Eggs”

At the Annual Meeting of the European Society of Human Reproduction and Embryology (ESHRE) July 1-4th in Lausanne,

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Covale nce: the chemical bond formed by the sharing of one or more electrons between atoms which is the basis for organic chemistry and, therefore, life itself. This bulletin pursues the bonds formed between science and theology that gives greater meaning to life than science or theology taken separately.

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"The ELCA Alliance for Faith, Science and Technology will help the church carry out its mission in a world profoundly influenced by science and technology. In pursuit of this the alliance will

**expand awareness,*

**encourage conversation, and*

**promote action*

pertaining to the relationships between science and technology and the faith and life of Christians."

Editorials

High Tech Life

Fifteen years ago when my wife and I were adopting our two children from Korea, a statistic we were told stood out for me personally and professionally (as I counseled infertile couples in my parish). One in nine couples, we were told at that time, would have infertility problems. Now, according to the European Society for Human Reproduction and Embryology (ESHRE), one in six couples are infertile. Infertility rates, most likely due to a variety of environmental factors, are increasing around the world, most notably in developed countries. Techniques to deal with infertility are becoming increasingly more sophisticated as we understand more fully how to manipulate genetic information, the basis of life.

While the possible cloning of human beings has caught the public imagination (as I write, congress is busy trying to pass legislation prohibiting cloning of humans), other techniques, such as *ooplasmic transfer*, described in this bulletin, are on their way to becoming established fact. As the article points out, there are a number of scientists who are concerned about changes to the human germline. I do not consider myself a Luddite; I am not one who considers human life to begin at conception. I am a good enough Lutheran to know that there are a whole host of "lesser of two evils" out there, and trust in God's grace. Yet I wonder, where is the societal discourse on an issue like this? Is it only among reproductive specialists and those who would use their services? Is that where we leave the discourse? Or should there be wider dissemination of information and a wider debate about the moral, ethical and religious implications of such techniques?

In the 1950's Leon Festinger coined the phrase *cognitive dissonance* to describe what happens when behavior and belief clash. (When behavior and belief clash, it is the belief that changes, not the behavior - i.e. the man who believes adultery is wrong has an affair and suddenly adultery is no longer an issue for him.) Gina Kolata noted in 1997 that there was a rapid and enormous change in attitude about cloning from "never" (before Dolly) to acceptance after. Therapies which we might have said "never" to before, may find acceptance now.

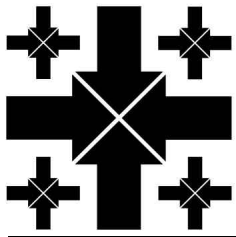
We certainly live in an age where genetic therapy offers much promise to cure disease and to mitigate genetic disorders. It would be wrong for the church to only say "no" to such therapies out of hand. But is just as wrong if there is no discussion as to the moral, ethical and religious implications of such therapies. The ELCA Alliance for Faith, Science and Technology has scientists who care about moral, ethical and religious issues and theologians and pastors who care about good science. Where and how do we weigh in on issues like this?

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Covale nce Now an ELCA Publication Only.

At the Ecumenical Roundtable this spring, it was decided that the Roundtable's publications would be electronic, with the establishment of a website. We will continue to publish Covale nce as an ELCA bulletin of information regarding faith and science and have downgraded Convergence to a news insert regarding people, places and events. This editor still believes that there is a need for three levels of faith and science discourse: journals (such as Zygon); bulletins of information and newsletters. Stick with us as our publications evolve.

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CONVERGENCE

News of Note for Members of the ELCA Alliance for Faith, Science and Technology :
Conferences, have we got conferences!!!



Theologians, philosophers, criminologists, sociologists, legal scholars, psychologists, clergy, and social service and government officials will examine the following topics: Crime and Religion; Punishment and Religion; Church State Relationships; Philosophy of Science and Religion. The conference will be held at the Rosen Centre Hotel in Orlando, September 24-25. Registration fee is \$165 by September 23; \$180 at the door. Included in the registration fee are 2 continental breakfasts. There are three ways to register for the conference.

- 1) Online Registration at secure website
- 2) Print and Mail the registration form to:
Accountant
University of Central Florida, Division of Continuing Education
Research Pavilion, Suite 265, 12424 Research Parkway
Orlando, FL 32826-3269
- 3) Fax the registration form to:
407-207-4935, Attn: Lynette Wilbur, with Visa, Master Card or American Express portion of the registration form completed (available 24 hours a day, 7 days a week).

Special Rates of \$129 per night have been established for conference attendees. For reservations, please contact the hotel directly and identify yourself as an attendee of the *Religion, Crime, & Punishment Conference*. Special room rates and availability are guaranteed through July 23, 2001. The conference is sponsored by the University of Central Florida, Department of Criminal Justice and Legal Studies, and Western Maryland College, Department of Philosophy and Religious Studies. For conference and registration information visit <http://www.dce.ucf.edu/rcp>

You are cordially invited to attend the Harvard Conference on Science and the Spiritual Quest: The Quest for Knowledge, Truth, and Values in Science and Religion. In OCTOBER 21 - 23, 2001, at Harvard Memorial Church, Harvard University, Cambridge, MA

Also stay tuned for the live National Telecast Monday, October 22, 2001 3:00 PM - 9:00 PM EDT

The Conference presented by Science and the Spiritual Quest (SSQ), a program of the Center for Theology and the Natural Sciences in partnership with Dialogue on Science, Ethics, and Religion, a program of the American Association for the Advancement of Science.

Co-Presenters include The Episcopal Cathedral Telecasting Network, and the Center for the Study of World Religions, Harvard University Divinity School

The largest conference on Science and the Spiritual Quest to date, the SSQ Harvard Conference will bring together leading scientists from around the world to explore the interface between contemporary science and the great religious and spiritual traditions.

Leading scientists will engage fundamental questions of human existence:

- Who are we?
- What is consciousness?
- How can spiritual perspectives enhance the scientific quest?
- What challenges and opportunities do the revolutions in information technology, nanotechnology, neuroscience, and genomics offer to humanity?

(Continued on next page)

Science and the Spiritual Quest, II (continued)

Confirmed speakers:

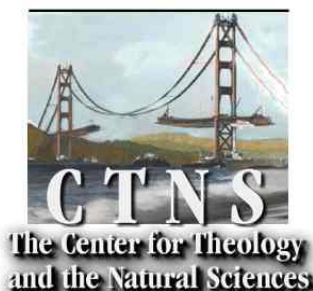
Dr. Praveen Chaudhari, IBM
Dr. Ramanath Cowsik, Indian Institute of Astrophysics
Dr. Paul Davies, Imperial College London and
the University of Queensland, Australia
(Winner, Templeton Prize for Progress of Religion)
Dr. Jane Goodall (via satellite), Jane Goodall Institute
Dr. Ursula Goodenough, Washington University
Dr. Bruno Guiderdoni, Institut d'Astrophysique, University of Paris
Dr. William Newsome, Stanford University
The Reverend Canon Dr. Arthur Peacocke, Oxford University,
(Winner, Templeton Prize for Progress in Religion)
Dr. William D. Phillips, National Institute of Standards & Technology,
Nobel Laureate
Dr. Robert Pollack, Columbia University
Dr. Manuela M. Veloso, Carnegie Mellon University

For conference information and registration, visit our website at:

www.ssq.net

For details on how to view the satellite or webcast broadcast, visit www.ectn.org or call 1-800-559-3286.

For media information or SSQ scientist interviews, call Silas Deane at Logic Media Group, Silas@logicmediagroup.com, 615-301-8313 or FAX 615-301-8001.



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CONFERENCE ANNOUNCEMENT:

THE SECOND EUROPEAN CONFERENCE OF THE INTERNATIONAL SOCIETY FOR LITERATURE AND SCIENCE:

EXPERIMENTING ARTS AND SCIENCES

May 8-12, 2002.

FIRST CALL FOR PAPERS AND WORKSHOPS

The second European conference of the International Society for Literature and Science (SLS) will take place at University of Aarhus, Denmark, May 8-12, 2002.

The conference will gather scholars from human, social, medical, technical and natural sciences as well as artists, who are interested in inter- and transdisciplinary approaches and linkages between the study

of culture, literature, visual arts and technoscience, and between science and the arts.

Culture and technoscience used to be regarded as disparate activities and fields of study that referred to separate spheres of society, and to different epistemologies, methodologies and practices. But in recent years, a growing number of scholars from many disciplines have forged lines and links between the study of culture/literature/visual arts and techno-science, exploring issues such as

- * links between fact and fiction
- * transversal lines between science and story-telling
- * links between cultural imaginaries and scientific practices
- * semiotic-material practices
- * how metaphors matter and matter performs metaphorically
- * intersections and incommensurabilities between visual arts, literature, culture and technoscience
- * translations between physical and virtual spaces
- * cyborg identities and cyborg bodies
- * feminist and postcolonial perspectives in technoscience studies

The conference will be a forum for exchange of ideas between senior and junior researchers committed to the exploration of such issues and to experiments with transgression of boundaries between the formerly disparate fields of culture/literature/visual arts and technoscience. In particular, the conference will give space to scholars who want to compare notes cross-nationally and cross-Atlantically.

Many European scholars seem to be committed to the study of the new interdisciplinary field of culture & technoscience studies without knowing about the International Society for Literature and Science that originally was started by US-colleagues. The first European conference of the society, held in Brussels in April 2000, initiated a much needed cross-Atlantic dialogue. The idea is that the second conference in May 2002 shall take this process important steps further.

Proposals for papers and workshops are invited from both senior and junior scholars from all disciplines who are interested in the links and border transgressions between the study of culture, literature, visual arts and techno-science. Abstracts for papers and workshops (2-300 words) should be sent to SLS@imv.au.dk before Oct. 1, 2001.

SLS c/o: Randi Markussen, Associate Professor, Ph.D.

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Conference website from September 1: <http://imv.au.dk/SLS-Europe>

The City of Aarhus can be visited 'virtually' at

<http://www.aarhus-tourist.dk/index.htm>

and University of Aarhus at <http://www.au.dk/en/>

DEATH...(continued)

Theology of the Cross and the Spectrum of Choices

Martin Luther's *theology of the cross* is a fundamental proposal about theological method as well as the proper content of theology.¹ We may summarize it by saying that God's fullest self-revelation, and thus the basis for adequate discernment of God's will for the world, is the cross and resurrection of Jesus. I have called the attempt to understand the significance of science and technology on this basis *chiasmic cosmology*.² Here I want to explore briefly some implications of the theology of the cross for the use of life-support systems.

There has been a whole spectrum of responses to the questions posed by life-support technologies. We can discern some of the issues which are involved by considering positions at the ends of that spectrum.

One end may be characterized by such phrases as "quality of life" and "death with dignity." Those who espouse such positions argue that life should be allowed to end, or even be ended, when illness is terminal and medical technology can only prolong pain and helplessness. And certainly prevention of suffering should have a high priority from any worthwhile perspective.

However, an exclusive emphasis on avoidance of suffering and death with dignity falls short of the vision of a theology of the cross. The death of God's Son was the most *undignified* and agonizing death that the ancient world could devise, "the most vile death of the cross."³ And the Christian understanding of the redemptive power of the cross is that even this death is not pointless. Suffering has no value in itself, but good can be brought from its negativity by the God "who gives life to the dead and calls into existence the things that do not exist", so that it makes sense to hope against hope (Rom. 4:17-18)

The other end of the spectrum is defined by such phrases as "sanctity of life." Those who hold such views maintain that everything possible should be done to preserve human life for as long as possible. According to them, it would be immoral not only to take action to end the life of a terminally ill person, but to also omit any treatment which might prolong life.

Of course, many traditional systems of ethics enjoin the protection of human life, though this is not usually understood to be an absolute requirement in all circumstances. But from the standpoint of the cross-resurrection event, there is something lacking in this position also.

With all that modern medicine has accomplished, it is easy to think that our hope lies in better and better technology which will sustain life longer and longer. There may be resentment that technology is not *yet* good enough: "In twenty years they'll be able to cure this," the angry father of a brain-dead accident victim said to me in a hospital's Intensive Care waiting room.

But we are all going to die, sooner or later. Christian hope is not for avoiding death or for turning back the clock. It is, instead, a direct consequence of the resurrection of the Jesus who was crucified (Mark 16:6). It is the hope that in spite of death, there will be life: "Whether we live, or whether we die, we are the Lord's" (Rom.14:8). Insistence on keeping bodily machinery going for every possible second may amount to a denial of such hope.

Both ends of the spectrum of choices miss one or another of the crucial parts of the message of the cross, that our highest good comes through the *resurrection* of the *crucified*. How, then, do we move further

toward actual decisions about the uses of life support technologies?

Justification and Decision Making

The *theology of the cross*, in fact, gives us no set of rules or moral calculus which will tell us precisely when life support measures should be used and when they should be omitted. What this theology does do, however, is to tell us that our ultimate worth before God does not depend on us always making the right decision. Belief that God "justifies the ungodly" (Rom. 4:5) is a central aspect of the theology of the cross. The *doctrine of justification* says that our status as people of God is entirely God's decision and God's gift to us through the death and resurrection of Christ. It does not depend on the correctness of our ethical decisions.

Of course, such decisions are not to be taken lightly. The situations we are considering are literally ones of life and death, and should be dealt with as prayerfully and as intelligently as possible. But when they have been given all due prayer and thought, we may still not be 100% certain that the choice we are inclined to is *the* correct one. The *doctrine of justification* tells us that we continue to be accepted by God even if it isn't the best decision that can have been made. We need not be paralyzed by fear of doing the wrong thing.

We are not left in total darkness but in shadow, not having a guarantee that a particular course of action will ensure our righteousness. Neither avoidance of suffering nor maintenance of life is an absolute, though the increasing acceptance of assisted suicide and euthanasia should probably incline us toward a emphasis on defense of life. Our light in the darkness is that of the cross, which assures us of God's acceptance in spite of our mistakes. And when a decision is made to stop using our technology, we recognize in our prayer that we are commending a life into God's hands: *God of compassion and love, you have breathed into us the breath of life and have given us the exercise of our minds and our wills. In our frailty, we surrender all life to you from whom it came, trusting in your gracious promises; through Jesus Christ our Lord. Amen*⁴

George Murphy

Notes:
1. Martin Luther, "Heidelberg Disputation" in *Luther's Works*, Vol 31 (Philadelphia, Fortress, 1957), p.40 (especially paradoxes 19-22). For further discussion, see Gerhard O Forde, *On Being a Theologian of the Cross* (Grand Rapids, MI, Eerdmans, 1997)
2 See, for example, George L. Murphy, *Trinity Seminary Review* 13 (1991), p 83
For discussion of this phrase from Origen ("*mors turpissima crucis*"), see Martin Hengel, *Crucifixion*, Fortress, Philadelphia, 1977), p. xi
4. "When a Life-support System is Withdrawn", from *Occasional Services* (Augsburg, Minneapolis, 1982) p106.

LIFE... (continued)

Switzerland, another technique for dealing with infertility in women was announced. This technique, still in the early stage of development, involves taking a cell from an infertile woman's body, and inserting it into an emptied donated egg. The resulting egg contains the genetic material of the woman wanting the baby, not of the donor egg.

A normal mature egg contains only one set chromosomes (as does a sperm). When an egg is "emptied" of chromosomal material and a cell from elsewhere in the body is inserted, the egg then has two sets. To

(Continued on Next Page)

Life... (Continued)

get rid of the extra set of chromosomes, scientists split the paired sets with an electric shock. The unwanted chromosomes were then ejected by the egg, making the egg viable for receiving the sperm.

As reported by Emma Ross, AP Medical Writer, the work is still in the preliminary stages, and it could be years before the technique produces a healthy baby, if ever. When scientists fertilized the manufactured egg with sperm, it divided once, then collapsed.

3. New Techniques Get Mixed Reviews

While the scientists at the Institute for Reproductive Medicine and Science who perfected the ooplasmic technique are happy with the results, not all scientists are. According to the BBC report, the ooplasmic technique is seen in Britain as an unwelcome development that "adds additional concern" to British scientist's worries. The report further added that some North American researchers have also criticized the production of genetically altered children.

For example, Eric Juengst, of Case Western Reserve University, said: "It should trouble those committed to transparent public conversation about the prospect of using 'reprogenetic' technologies to shape future children." And Professor Joe Cummins, of the University of Western Ontario in Canada, told BBC News Online: "Now is not the time to bring in human germline gene therapy through the back door."

In a similar vein, one of the researchers for the "manufactured eggs", Dr. Gianpiero Palermo (professor of embryology at the Center for Reproductive Medicine and Infertility at Cornell University) has stated said that besides helping older women bear children, his technique could help those who can't use their own eggs, either because they don't have any or because their eggs are no good. This could include those whose ovaries are removed before cancer treatment, those who were born without ovaries or women who reach menopause at a young age.

But, as Emma Ross has reported, other researchers were skeptical that manufactured eggs could produce healthy babies anytime soon, saying the technique would likely create gross genetic abnormalities. Because scientists, in general, believe that DNA deteriorates with age there is a concern that the older the cell that is used in this technique, the more likely the chance of major defects.