

AWARENESS AND CONVERSATION

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Evangelical Lutheran Church in America
God's work. Our hands.

By: Ida Hakkarinen

Science seeks to serve human welfare, says this scientist. But in a world profoundly shaped by science and technology, conversations and "hospital space" are needed between the communities of faith and science.

"I have a very strong feeling that science exists to serve human welfare. It's wonderful to have the opportunity given us by society to do basic research, but in return, we have a very important moral responsibility to apply that research to benefiting humanity." (Walter Orr Roberts, 1915-1990)

Dr. Walter Roberts was a scientific pioneer and statesman in the field of atmospheric and environmental sciences who presided over the founding of the National Center for Atmospheric Research (NCAR), located in Boulder, Colorado.

Among his many tributes, Dr. Roberts was the first scientist to receive the North American Leadership Award of the United Nations Environment Programme. The citation reads in part that it is given in honor of his "placing so generously his wisdom and talents in the service of the Earth."

In the 5th grade, I did a report on "The Weather" which had a lasting impact upon me and my career choice. I still have the notebook that I compiled; one of the yellowed *Weekly Reader* news articles describes the new National Center for Atmospheric Research being built in the Colorado foothills. As a meteorologist working in public service today, I appreciate the contributions of Dr. Roberts to the discussion about stewardship of the earth.

These words about a scientist whose example of service to benefit society that is carried forth today in NCAR's activities regarding scientific policy and the societal applications of scientific research stand in sharp contrast with a stereotypical view (popularized in film and in literature) of a scientist as "a [mad]man [sic] in a white coat" working in a laboratory away from people and painstakingly collecting data and making observations.

At times, this view is more prevalent than one might think. One of the elementary school science projects I judged in the last few years involved the analysis of drawings of scientists done by 4th graders.

Most of them depicted males in lab coats holding a beaker and not many of the scientists were smiling. (The hypothesis of the young woman who conducted this experiment was that more of her colleagues would draw men rather than women.)

Scientists and technologists come in "all shapes and sizes and colors" and both genders, and very few of us wear white coats and work in isolated laboratories. Many scientists and technologists are also people of faith who are active members of parishes, involved with campus ministries, teach in church colleges or secular institutions, and serve on ELCA boards, commissions, and the Church Council.

Scientists and technologists are living out their baptism in their daily calling, just as other members of the body of Christ do. What seems to be too frequently the case, though, is that scientists and technologists find little in the liturgy, hymnody, or educational activities of the church that affirm and encourage our vocation in the world.

I can count on one hand the hymns that contain scientific images or metaphors, while there are many in the *Lutheran Book of Worship* dealing with fair meadows filled with grazing sheep, or angels dancing around the throne of God.

Scientists and technologists have often found that they have to "check their brains" at the door of the church, because the preaching or teaching is based upon an outdated "Sunday School faith" model that does little to challenge faith or call forth new understanding.

Conversational Space

In the apparent clash of "culture" between religion and science and technology, what opportunities are there for cross-cultural exchange that benefit both? First, and foremost, the church can offer and model hospitality, enabling "space and time" for such conversations to take place.

In late 1987, 45 young scientists, technologists, and theologians from 5 continents and 17 countries gathered in Larnaca, Cyprus, for a consultation entitled, "The New Scientific/Technological World: What Differences Does It Make for the Church?" The consultation was organized by the late John Mangum, director for planning, Division for Global Missions of the Lutheran Church in America.

This meeting was the genesis of the ELCA Work Group on Science and Technology, as well as several similar work groups in other denominations.

The mission and ministry of the church in the 21st century will take place in a world profoundly shaped by science and technology. What are the

Out of this meeting, the Ecumenical Round Table on Science, Technology and the Church was formed. The Round Table meets annually with persons from the United Church of Christ, the Anglican Church of Canada, the Presbyterian Church USA, the United Methodist Church, The Episcopal Church USA, the Reformed Church of America, the Evangelical Lutheran Churches in Canada, and the Roman Catholic Church to discuss faith and science issues and to share resources. Observers from other denominations have been present at various gatherings.

implications for such a world on Christian faith and life?

The Cyprus conference offered the opportunity for wider dialogue between the scientific and theological communities, serving as a spawning ground for the denominational interest groups.

The ELCA Work Group on Science and Technology is a network of approximately 400 people who have expressed an interest in faith and science issues and a commitment to engage in conversation in whatever arenas they find themselves.

The Work Group's mission statement is: "The Evangelical Lutheran Church in America is called to mission in a world profoundly influenced by science and technology. We are a group of laity and clergy dedicated to expanding awareness and promoting conversation about the implications of science and technology for Christian faith and life." The Work Group formalized its relationship with the ELCA in 1991 through the Division for Ministry.

There are numerous academic and research efforts underway in the science and religion dialogue through organizations such as the Zygon Center for Religion and Science at the Lutheran School of Theology in Chicago and the Center for Theology and the Natural Sciences at the Graduate Theological Union in Berkley, California.

These efforts are not just being undertaken by theological institutions. The nation's largest professional science society, the American Association for the Advancement of Science (AAAS), instituted a Program of Dialogue on Science, Ethics, and Religion in 1995. (<http://www.aaas.org/spp/dspp/dbsr/default.htm>).

The program seeks to promote knowledge about developments in science and technology within the religious community, provide opportunities for dialogue between members of the scientific and religious communities, and promote collaboration between members of the scientific and religious communities on projects that explore the ethical and religious implications of scientific developments.

The ELCA Work Group has chosen to focus efforts upon practical ways in which congregations, campus ministries, and church colleges can foster the science, technology, and religion dialogue.

Several years ago, the Work Group compiled a selection of resources that could be used in congregations as the basis for adult forums, Sunday School classes, and workshops. Information about the collection was advertised and more than 400 packets were distributed to interested respondents.

The scientific method that we learned in elementary or middle school for doing a science project involves the steps of (1) making a hypothesis, (2) designing an experiment to test the hypothesis, (3) performing the experiment, making and collecting observations, and (4) analyzing the results.

Scientists and technologists tend to be methodical in their approach to their work, and in many ways, in their approach to the world. They frequently look for evidence to back up one's assertions. Consequently, scientists have often been called "skeptics."

But scientists also delight in the discovery of new information and often are exceedingly passionate about their work, which often involves a lifetime of study in a given area of a discipline. (The process of talking about God is also often methodical; seminarians take systematic theology in their first year of studies.)

Rapid Revolution

Being methodical, however, does not mean being slow. In fact, the last 100 years have experienced a rapid revolution in science and technology. What began with human-powered flight on the beach at Kitty Hawk evolved to the landing of earthlings on the moon and their safe return.

Mechanical adding machines gave way to room-sized computing machines with numerous vacuum tubes, followed by the development of the transistor and the integrated circuit that brought miniaturized components which provide supercomputer power on a desktop.

The astronomy textbooks on the solar system needed to be updated after the Hubble Telescope observations. Advances in biotechnology and medicine are also changing on a daily, sometimes hourly, basis.

The *rate* of the rate of change has dramatically increased in the past 20 years. Product cycles in computer software companies, which used to be between nine to twelve months, have shrunk to three. Internet start-up companies sprout overnight, make a fast buck, and then dissolve. Microsoft Chairman Bill Gates has written a book about the effect on the Internet on business and economic life, calling it *Business at the Speed of Sound*.

The development of the computers and networking technology, referred to as Information Technology (IT), is not only changing every business and industry around the world, it is also changing the ways in which society functions. John Ellis writes in

the November 1999 issue of *Fast Company* that "the lead story of our time" of history will not be the IT revolution but rather the genomics revolution.

He cites a Harvard Business School case study titled "Gene Research, the Mapping of Life and the Global Economy" (case N9-599-016, Juan Enriques, author; Harvard Business School, 800-545-7685) as the "best primer on the genomics revolution."

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Ellis says, "Once you have a copy of the study, read every word of it. The case which is being read by top people at major companies in the fields of health care, agriculture, energy, chemicals, and defense will change how you think about the future." (Presiding Bishop George Anderson has a copy of the genomic study which I gave to him at the November 1999 ELCA Church Council meeting, along with John Ellis' article describing it.)

Gene research and the mapping of life gets to the central core of one of the questions about which the church has much to say: "What does it mean to be human?" We have an incarnational theology Jesus lived, died, and rose again because "God so loved the world that he gave his only Son."

Many scientists and technologists share the "strong feeling" of Walter Orr Roberts that "science exists to serve human welfare." They live out their baptismal calling in an environment in which the data and information are arriving at such a rapid rate that processing and discernment are often difficult.

The mission and ministry of the church in the 21st century will take place in a world profoundly shaped by science and technology. What are the implications for such a world on Christian faith and life? The time is ripe for conversations in confirmation classes, on college campuses, at campus ministry gatherings, and in your own congregation.

Invite a scientist or technologist from your parish to lunch, and plan a strategy for engaging the people of God in your community in an issue that impacts them and the people to whom they minister.

The pervasiveness of science and technology in our world will mean that whatever issue you choose, there will be a connection. In what ways is technology helpful? In what ways is it harmful? What are the ethical questions to be faced? What does scientific research indicate? What insights can Scripture provide?

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Jesus Christ has redeemed our future; we should not be afraid of asking the difficult questions facing our time. In the conversation, we will nourish one another.

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Let us begin the new millennium with an openness to the amazing and wondrous frontier that God has placed before us to explore.

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