Theology and Technology

THOMAS L. EREKSON

I am honored to speak to you today. However, I am somewhat humbled by this opportunity. This reminds me of an instance about 20 years ago, when I responded to an editorial that I heard on WGN-Radio in Chicago. Shortly after sending a written response to the station, I received a call indicating that they would like me to come in and tape my response for broadcast. Luckily I wore a suit to the station, because when I arrived, I was informed that the taping would take place on the set for the evening news program, with a teleprompter. It hadn't crossed my mind that WGN was both a radio and a TV station and that my editorial response was to be televised. Needless to say, I was a little nervous.

My remarks today will focus on theology and technology. I have chosen these topics for obvious reasons. As a member of The Church of Jesus Christ of Latter-day Saints and a BYU faculty member as well, I have a great interest in and commitment to theology. And, as director of BYU's School of Technology, I also have a great interest in and commitment to technology.

I believe that technology and theology are linked—intertwined, if you will. I will share some perspectives of each, after which I will discuss the interrelationships.

We live in a wonderful time, a time when the marvels of technology have, in most instances, made life and work much easier—albeit more complex. President James E. Faust, at the October 1999 general priesthood meeting, noted this. He said:

The miracles of modern technology have brought efficiency into our lives in ways not dreamed of a generation ago, yet with this new technology has come a deluge of new challenges to our morals and our values. Some tend to rely more on technology than on theology. [James E. Faust, "Of Seeds and Soils," *Ensign,* November 1999, 47–48]

Many in our global society are relying more on technology, its products, and its benefits than they are relying on theology and God. This concern is not limited to President Faust and our church. To counteract the detrimental effects of technology, some religious groups have made the relationship between technology and theology a point of doctrine. For example, the Amish reject many modern technological advances like automobiles, television,

---

Thomas L. Erekson was director of the BYU School of Technology when this -devotional address was given on 8 May 2001.

electricity, and modern clothing fashions in an attempt to maintain a strong focus on God.

Of course we need to realize that theology clearly benefits from technology. President Faust further stated:

I hasten to add that scientific knowledge, the marvels of communication, and the wonders of modern medicine have come from the Lord to enhance His work throughout the world. As an example, the Church's FamilySearch® Web site has more than seven million hits a day. [Faust, "Of Seeds," 48]

There is no doubt that technology benefits and complements the Church. Although I will discuss the benefits in more detail later, it must also be understood that technology is like a two-way street: it goes both ways—that is, it has both positive and negative effects. And though technology can be used to benefit theology in its purpose of bringing to pass the eternal life and exaltation of mankind, likewise, technology can be used by the adversary to benefit his purposes, which are to destroy goodness and to stop eternal progression. Let me quote President Faust again:

But Satan, of course, is aware of this great progress in technology and likewise takes advantage of it for his purposes, which are to destroy and despoil. He delights in the pornography on the Internet and the sleaze in many of our movies and television shows. [Faust, "Of Seeds," 48]

Technology is a very powerful tool that can be used by both sides in the battle for salvation.

Technology

At this point I would like to discuss technology. My comments may seem a little academic; however, I will try to refrain from technobabble—which is using confusing technical jargon.

What is technology? If we were to conduct a Jay Leno–type "Jaywalking" survey, asking people on the street what *technology* means, I would predict that more than 95 percent of the respondents would answer with the word "computers" or maybe "the Internet" or something closely related to either computers or the Internet.

Does technology equate to or mean only computers? I think not. Today there does not seem to be a clear definition of what technology is. The term has many meanings. To some it means applied science; to others it means gadgets, devices, and machines; to yet others it means a complex social enterprise or a process. What then is technology? First, let's look at the dictionary definition, which is:

1. The application of tools and methods; 2. Method of applying technical knowledge; 3. Sum of a society's or culture's knowledge. [*Encarta World English Dictionary,* 1999, s.v. "technology"]

There are two words in this definition that resonate—*knowledge* and *application.* It is interesting to note that when John H. Gibbons was the director of the U.S. Congress' Office of Technology Assessment, he defined technology as "applied human knowledge," which, by the way, is probably the most succinct definition of the word *technology* (in *Technology Education: The New Basic* [Albany, New York: Delmar Publishers, 1988], videocassette).

To help gain a greater understanding of what technology is, let me share with you some results of discussions and debates that five doctoral students, a new assistant professor, and I had about 14 years ago when we were at the University of Illinois. This technology study group met weekly over a two-year period with the express purpose of creating an innovative program to prepare a unique kind of technology teacher for the 21st century. (See Scott D. Johnson and Thomas L. Erekson, "Technology's Role in Vocational Education Reform," *Illinois Vocational Education Journal* 44, no. 1 (1988):11–15.)

Our discussions about technology were spirited, and, as I recall, our vision became more focused as we examined characterizations of technology. In a scholarly paper about the philosophy of technology, Dr. Rodney E. Frey, then a technology education faculty member at Bethel College in North Newton, Kansas, a Mennonite institution, citing Carl Mitcham's work, identified four major characterizations of technology.

They are technology

- as object,
- as process,
- as knowledge, and
- as volition.

(See Rodney E. Frey, "Is There a Philosophy of Technology?" paper presented at the meeting of the Mississippi Valley Industrial Teacher Education Conference, Chicago, Illinois, November 1987; see also Carl Mitcham, "Types of Technology," in *Research in Philosophy and Technology,* vol. 1 [Greenwich, Connecticut: Jai Press, 1978], 229–94.)

Now let me briefly describe these four characterizations.

The first level of characterization views technology as an object or a thing. At this level technology is viewed as tools, machines, and devices that are produced and used by humans. In fact, it could easily be argued that technology as an object is the layperson's definition. Again, many people view technology and computers as the same thing. However, a computer is a technological device.

The second level of characterization views technology as a process or a system. This characterization suggests that technology is the application or the use of devices in systems. The focus is not on the device or the object; rather, it is on the application in a system or process. The Internet is a good example of a technological system at this level of characterization.

The third level of characterization views technology as knowledge. This perspective suggests that technology has its own unique knowledge base and modes of inquiry that underlie technological objects and systems. Some would suggest that, from this perspective, technology is a new academic discipline—and, in fact, I wrote an article in the early 1990s in support of this perspective. Do you remember the dictionary definition of technology? Part of that definition said that it was "a society's or culture's knowledge."

The fourth level of characterization views technology as volition or human will. In this characterization, the objects, processes, and knowledge of technology all become means to extend the capability to meet human needs and human wants. Volition means the ability to make conscious choices about which technologies to develop and to use. It also suggests that humans can control, or be controlled by, technology.

Our Illinois study group—after further analysis, discussion, and debate—determined that in its simplest form, technology is a synergistic noumenon that occurs through the interaction of knowing, thinking, and doing while extending human capabilities. Now, if any of you know what a noumenon is, you get an A for the day. I'll tell you what it is: A noumenon is an object that is conceived by reason, and is consequentially thinkable but not knowable by the senses. In effect, a noumenon is a phenomenon that cannot be seen. Technology then is not just knowledge. It is not just doing and it is not just thinking. It is the intersection or the interaction of all three.

From the perspective of technology as a noumenon, the physical phenomenon of technology was deemed by this Illinois study group as "technological activity." What most people consider technology to be, from our perspective, is actually technological activity.

Whether my definition of technology is accurate or not, technology suggests action or interaction, but it is not just application

or doing. Technology should be thoughtful action based on core human values with the purpose of extending capabilities. As I said earlier, technology is applied human knowledge—or it might also be considered human ingenuity in action.

Another aspect of technology is that it is often irreversible. That is, once deployed, it is difficult to go back or to go without it. Take, for example, automobiles. How many of us want to go back to the days of the horse and buggy? Do you have any idea how many tons of horse manure were generated daily by the cabs in New York City at the turn of the last century? Would we want to do without things like power door locks and remote keyless entry? What about computers or photocopiers? Or CD players? I certainly do not want to go back to when technology was not as provident as it is today.

Theology

Now I would like to talk about theology and then about the relationship between theology and technology. Since I have tried to define technology, let's begin by defining theology. The dictionary defines *theology* as:

1. The study of religion, especially the Christian faith and God's relation to the world; 2. A religious theory, school of thought, or system of belief; 3. A specialized course of religious training. [*Encarta World English Dictionary,* 1999, s.v. "theology"]

As students at BYU, you are involved in studying religion, especially the Christian faith. As members of The Church of Jesus Christ of Latter-day Saints, we espouse a religious theory and we have a system of belief. We have some beliefs that are common among religions and we have some beliefs that are unique to our Church.

I do not have time today to list all of our beliefs. However, the basics of our theology are described in the Articles of Faith, 13 brief statements that outline our beliefs. Many of us memorized all 13 when we were in Primary and then recited them to our bishops prior to Primary graduation. Additional aspects of our theology come from the standard works and the words of the living prophets and apostles.

The Relationship Between Theology and Technology

Is there a relationship between theology and technology? It is clear that technological activity—technology, if you will—has had, and will continue to have, significant impact on the major institutions of society—which are family; education; economics; politics, including the military; and religion.

There is no doubt that technology has changed the institutions of society and that the rate of change is accelerating. Elder L. Tom Perry stated that "as technology sweeps through every facet of life, changes are occurring so rapidly that it can be difficult for us to keep our lives in balance" (*Living with Enthusiasm* [Salt Lake City: Deseret Book, 1996], 22). Individuals and families are being affected as a result of technology and technological changes.

Many examples could be cited at this point, but I would like to focus on the generation gap. Although there has always been a generation gap, it appears that the gap is widening as a result of technology. Due to the accelerating pace of change, the world that you have grown up in is significantly different from the one your parents grew up in, and your children's world will have even greater differences from your world because of the pace and scope of technological advancement.

I went to high school and served my mission in the 1960s, a time that was very different from today. In many respects I grew up in the last stages of the Industrial Age, whereas my children have grown up in the Information Age. A case in point is this: One of my favorite songs from my high school days was the Beach Boys' song "Little Deuce Coupe." My children do not know what a

little deuce coupe is, and, furthermore, they probably don't care to know. Likewise, when my son, Bob, was playing in a heavy-metal garage band, I really did not understand or appreciate the electronics of music. And I especially did not appreciate music amplification. By the way, we did not let Bob's band practice in our garage!

Technology does not have to widen the generation gap if we embrace the concept of lifelong learning. My father, another Bob Erekson—who, by the way, just turned 80—is trying to keep up with the times. He has become a relatively sophisticated computer user. Last fall he and his brother, Gene, attended COMDEX–Las Vegas—one of the largest computer trade shows. They try to keep up with the latest and greatest computer stuff. My father is able to discuss computers with his grandchildren, many who work full-time in computing.

The Source of Technology

As we consider technology and theology, it is interesting that many of our Church leaders believe that technology has come as a direct result of inspiration from the Lord. In general conference in October 1926, Elder Joseph Fielding Smith stated the following:

I maintain that had there been no restoration of the gospel, and no organization of the Church of Jesus Christ of Latter-day Saints, there would have been no radio; there would have been no airplane, and there would not have been the wonderful discoveries in medicine, chemistry, electricity, and the many other things wherein the world has been benefited by such discoveries. Under such conditions these blessings would have been withheld, for they belong to the Dispensation of the Fulness of Times of which the restoration of the gospel and the organization of the Church constitute the central point, from which radiates the Spirit of the Lord throughout the world. The inspiration of the Lord has gone out and takes hold of the minds of men, though they know it not, and they are directed by the Lord. In this manner he brings them into his service that his purposes and his righteousness, in due time, may be supreme on the earth.

. . . I do not believe for one moment that these discoveries have come by chance, or that they have come because of superior intelligence possessed by men today over those who lived in ages that are past. They have come and are coming because the time is ripe, because the Lord has willed it, and because he has poured out his Spirit on all flesh. [*CR,* October 1926, 117]

This statement was made at a general conference 75 years ago. As we contemplate the technological innovations since that time, we can see the Lord's hand in providing the technologies to further His work.

Early leaders of the Church embraced technology. For example, in 1861 President Brigham Young contracted to build the telegraph system from Nebraska to California. He also used this opportunity to build a telegraph line from southern Idaho to northern Arizona to connect members in the Intermountain West. Adopting this new technology also provided a means for the Church to communicate with the world.

Church leaders have always placed a premium on communication technologies. When I was a young deacon, I remember traveling with my father and grandfather to the stake center in Chicago each April and October to listen to the telephone wire transmission of the general priesthood meeting. Can you imagine being 12 years old, sitting on hard pews, and listening to a conference session over the PA system? What a joy it was when WGN-TV in Chicago decided to broadcast one hour of general conference on Sunday morning—of course the general priesthood session was still a sound-only telephone transmission.

When cable TV was emerging, our local community cable system carried a full session

of general conference. Imagine, real time conference on TV! Or was it tape delayed? Before we knew it, stake centers had satellite dishes that enabled us to receive all conference sessions in real time, and without commercials! We could even get some BYU games via those satellite dishes! Now that was a real advancement. Today members worldwide have access to general conference via the Internet.

This is but one example of how the Church embraces new technologies. Other examples include the use of computers in family history research, in tracking and updating membership records, and in the general administration of the Church. My father, who currently serves as ward membership clerk, told me that in the late 1960s the Church had difficulty handling 3,000 membership record changes and updates per day—all done by hand. It could take up to four months for changes to be recorded and verified. Today he can submit membership record updates electronically on Sunday and have verification by Tuesday of the same week—and we are more than 11 million members and still growing!

Doing

Although our church has many unique beliefs, we are an action-oriented church—a church of doers, if you will. This aspect of our religion also shows the link between theology and technology, as doing is core to technology. Elder Hartman Rector, Jr., noted this: "The theology of The Church of Jesus Christ of Latter-day Saints is such that you cannot be passive" ("The Roots of Mormonism," *Ensign,* May 1975, 56).

We can't be passive. We must be active. In effect, the Church purports a gospel of action, or doing. Membership requires action. It takes action to learn the gospel and the commandments. It takes action to keep the commandments and to live a Christlike life. To be a disciple of Christ, we have to receive the law and do it (see D&C 41:5).

In the New Testament, James noted that faith is difficult, if not impossible, to have without action and application. He stated that "faith without works is dead" (James 2:20). He further encouraged members to be "doers of the word, and not hearers only" (James 1:22).

We are members of a "doing" church. As I recall, President Kimball had a slogan on his desk that simply said, "Do it!" His watchwords to the Church were to "lengthen our stride." He also had the words changed in the chorus of the song "I Am a Child of God" from "Teach me all that I must *know"* to "Teach me all that I must *do* / To live with him someday" (*Hymns,* 1985, no. 301; emphasis added). It clearly takes more than knowledge to return to God after this life. It takes knowledge and thoughtful action.

We are a people of doers and hard workers. We even have hymns about work—for example, "Put Your Shoulder to the Wheel" (*Hymns,* 1985, no. 252). We should follow the example of the Savior, who did not stand idly by. He was active in learning—line upon line, precept upon precept. He was a carpenter and a teacher and a tireless worker. He applied His knowledge and experience in doing good.

President Hinckley noted that "nothing of real substance comes without work" (*Standing for Something* [New York: Times Books, 2000], 80). He further stated: "I believe in the gospel of work. Work is the miracle by which talent is brought to the surface and dreams become reality" (*Standing,* 80).

Of course, doing and work require action and application. We won't accomplish much by just thinking about it. President Hinckley noted that "our pioneer forebears could never plow a field by turning it over in their minds" (*Standing,* 80).

So, too, we must apply our knowledge. Of course knowledge can be applied for good or for evil—that two-way street I mentioned earlier. Leaders of the Church have encouraged us to use our knowledge and capabilities to

build the kingdom. As students, you are preparing for your life's work—work in the home, in the Church, and in the professions.

President Spencer W. Kimball believed that technological development has come to further the work of the Lord. He stated:

I believe that the telephone and telegraph and other such conveniences were permitted by the Lord to be developed for the express purpose of building the kingdom. Others may use them for business, professional or other purposes, but basically they are to build the kingdom. [Regional representatives seminar, 3 April 1975, 19; typescript copy, BYU Archives]

How will you apply the technological knowledge and experience you have gained in building the kingdom? Although each will have to answer this question for himself or herself, let me share some examples of BYU graduates who are applying their technological knowledge in building the kingdom.

Russ Mumford, a December 1999 construction management graduate, is the project engineer for the construction of the Nauvoo Temple. In this position he serves as second in command at the construction site. He is applying what he learned at BYU in literally building the kingdom and its temples.

Randy Bryson, a 1983 graduate of the electronics engineering technology program, is the director for the Church department that is responsible for the FamilySearch® Web site, one of the most heavily hit sites on the Internet. In this position he led the team that put together the Ellis Island project and loaded the information on the Internet. He works with stakes and wards in teaching people how to use the Internet for family history. Randy is applying his technological knowledge in the family history arena, helping members to do the research to redeem the dead.

Audrey Boone, a 1992 graduate of the technology teacher education program and a member of the Navajo nation, has been teaching at Monument Valley High School in Monument Valley, Utah, since graduation. In addition to teaching technology education, she has served as a seminary teacher. Audrey is applying her technological knowledge in teaching the rising generation.

Charles Harrell, a 1976 manufacturing technology graduate, has become an expert in computer-based simulation. He developed ProModel, a very powerful manufacturing simulation software package that is being used by the Church to plan and simulate in units such as the Family History Division, the Missionary Department, and the MTC. In the MTC, for example, ProModel is used to simulate traffic flow when missionaries are dropped off, and to simulate food service for the missionaries. Charley, now a BYU faculty member, is applying his technological knowledge in helping to strengthen the administration and operation of the Church.

Deborah Benson, who earned her master of science degree in 1993, initially worked for ProModel. She now works for Intermountain Health Care in the Engineering Management Division, where she uses simulation to improve hospital operations and reduce costs. She currently serves as a counselor in her stake Young Women presidency. She is applying her technological knowledge in her profession and she is providing leadership in the Church.

Darren Gardner graduated in facilities management in 1998. He works for the Church in the Planning Division of the Facility Management Department. As a facility planner he works with a team that analyzes where all new meetinghouses will be located and when they should be remodeled or expanded. He also speaks daily with stake presidents to assist them with their physical facility needs. Darren is applying his technological knowledge in strengthening stakes and wards with their meetinghouse needs.

Rhett Turner, a December 1999 construction management graduate, is a project superintendent for Fulton Homes in Tempe, Arizona. He is advancing rapidly in his chosen profession, and, like many BYU graduates, he is providing leadership in his local ward. Rhett was called as a counselor in the bishopric a short time after moving to Arizona. He is applying his technological knowledge in his profession and providing needed church service.

Summary

In summary, I believe that theology and technology are inseparably linked. Technology is, as I said earlier, knowing, thinking, and doing. Our theology is knowing and choosing the right and doing the right.

Theology provides a value structure for developing and deploying appropriate technologies. Technology provides the means for communicating the good news of the gospel and its theology to the inhabitants of the world and improving the efficiency and effectiveness of the operation of the Church.

In closing I would like to share with you part of the second verse of the hymn "Have I Done Any Good?":

There are chances for work all around just now,
Opportunities right in our way.
Do not let them pass by, saying "Sometime I'll try,"
But go and do something today.
[*Hymns,* 1985, no. 223]

Brothers and sisters, opportunities abound in our technological society, but we must do something about them. Make sure that you apply your education and experience in building the kingdom. Go and do something today. In the name of Jesus Christ, amen.

Other Reading

Rodney L. Custer, "Examining Cultural Ideologies," in Rodney L. Custer and A. Emerson Wiens, *Technology and the Quality of Life* (Peoria, Illinois: Glencoe/McGraw-Hill, 1996).