Learning in the Light of Truth

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It is common at graduation time to receive a few student letters expressing thanks for the opportunity to study at Brigham Young University. Almost all students feel a sense of gratitude for the BYU experience. They appreciate faculty and staff members who have been a special influence in their lives—both in terms of the learning associated with a particular discipline and the wise counsel received concerning life. Sometimes students share a special experience associated with a classroom lecture or some other event. Recently, an August graduate sent such a letter describing an experience that provided gospel insights for her. A portion of the letter reads:

Recently I sat in a physics class and had the Holy Ghost teach me. We were discussing fiber optics and how light travels perfectly through strands of plastic without losing energy. I realized as the lecture proceeded that all things point to Christ. Christ has all power and never "loses energy" as He influences our lives. I sat in awe at the understanding that came to me; not a physical understanding but a spiritual enlightenment filled my soul. I came out of that lecture on a spiritual high. [Letter from Patricia Farr, 7 August 2000]

The young woman's insight is profound. As an infinite source of all power (Matt. 28:18), the Savior of the world does not lose energy as He assists us in the learning process and in our quest for eternal life (Alma 34:14), even though in mortality "virtue" left His soul (Luke 8:46). Like the woman who touched the hem of His garment, the student's connection to the Spirit and her insight illustrate not only the power of healing but the power of learning when temporal understanding combines with faith to produce a spiritual confirmation. The student's insight relates directly to the theme of this conference, which is:

And if your eye be single to my glory, your whole bodies shall be filled with light, and there shall be no darkness in you; and that body which is filled with light comprehendeth all things. [D&C 88:67]

Merrill J. Bateman was the president of Brigham Young University when this address was delivered at the Monday morning session of the BYU Annual University Conference on 21 August 2000 in the Marriott Center.

Today my remarks will be directed to learning in "the light of truth" (D&C 88:6; 124:9), which is the subject of the first two institutional objectives introduced last year—i.e., first, to "educate the minds and spirits of students in a learning environment that increases faith in God and the restored gospel"; and, second, to "advance truth and knowledge." The first objective refers to all that is done by faculty and staff to share light and truth with students. The second relates to the research and creative efforts that build and replenish light within us so that our flame grows "brighter and brighter until the perfect day" (D&C 50:24). The day will come when President John Taylor's words will be fulfilled in that we "will be as far ahead of the outside world in everything pertaining to learning of every kind as we are today in regard to religious matters" (*JD* 21:100). We will possess and share with the world temporal as well as spiritual truths of consequence.

In preparing material for today, I became fascinated with the nature of light and its characteristics. Everyone on this planet is aware of the natural light that emanates from our solar star or sun, which provides the heat and light that sustains temporal life on earth. In contrast, relatively few are aware of the spiritual light that emanates from a different Son—our polar or "bright and morning star" (Rev. 22:16). And even fewer are aware that temporal and spiritual light are related, with the second light a more refined version of the first.

The Dual Nature of Light

Physicists have studied light for many years and have determined that photons of light behave like streams of particles in some circumstances and like waves in others. In a diffraction experiment, light appears to be a wave as it passes through a large number of very fine parallel grooves or slits cut in the surface of glass or polished metal. When light is used to bombard certain materials or pass through a tube, it appears to be composed of particles. The German physicist Max Planck developed a theory in the early 1900s that "helped explain how tiny particles, such as photons, behave like waves. His theory . . . helped scientists accept the idea that light behaves like both particles and waves" (*World Book Encyclopedia*, 1974 ed., "The Nature of Light," s.v. "Light").

One of the interesting characteristics of light is that it can pass through a fiber-optic cable at high rates of speed for thousands of miles without requiring regeneration. As the graduate noted in her letter, there is little loss or attenuation as the light particles pass through the glass core. In contrast, electrical impulses passing along a copper wire lose energy more rapidly and must be boosted every 20 to 40 miles. Also, the carrying capacity of light in a fiber-optic cable is sufficient to transmit millions of TV signals or upward of a billion telephone conversations almost instantaneously. A coaxial cable, on the other hand, can transmit only a few hundred electrical impulses per time unit.

There is another form of light not often studied by physicists—light in the spiritual dimension. At BYU we are privileged to know about, access, and benefit from a more refined light that emanates from Christ. It, too, is the source of life—eternal life. This light, the Light of Christ, is the source of truth. In speaking to Joseph Smith, the Savior said:

> *For the word of the Lord is truth, and whatsoever is truth is light, and whatsoever is light is Spirit, even the Spirit of Jesus Christ.*
>
> *And the Spirit giveth light to every man that cometh into the world; and the Spirit enlighteneth every man through the world, that hearkeneth to the voice of the Spirit.* [D&C 84:45–46]

There is also a kernel of light within each man and woman that "was not created or made, neither indeed can be" (D&C 93:29). This light or intelligence is called "the light of truth" as well and is coeternal with the Creator.

Because "light cleaveth unto light," there is a natural link or affinity between our intelligence and the Light of Christ that equips all people with a basic discernment of good and evil—that part of us we call our conscience (D&C 88:40; see also Moroni 7:15–16).

As an aside and in contrast to the natural light of the sun and the spiritual luminescence of the gospel, I cannot help but think of the plight of the Russian sailors last week lying inside the damaged submarine at the bottom of the Barents Sea. A few days ago a Russian official described the terrible scene in these words: "The darkness must be blinding!" Others speculated that any sailors still alive would be lying quietly trying to conserve oxygen and energy in the blackness of the 40 degree temperature that gripped the ship. Without light and heat, these men could no longer see and would soon become semiconscious, comprehending little. The whole world suffered with them as rescuers were turned back again and again and the men became doomed by an absence of light, heat, and oxygen—if they had not already been drowned by the sea.

In the study of light, physicists have discovered that light has a spectrum. The visible portion of that spectrum displays many colors. The light spectrum has proven useful as physicists and engineers have designed equipment that allows each color to be used as a conduit, thereby multiplying the carrying capacity of light.

The visible spectrum of light has a spiritual counterpart. The spiritual spectrum relates to various levels of intelligence, beginning with animal instinct and moving to more refined forms of light and truth. These gradations include man's reasoning ability and conscience, the light that comes through the Holy Ghost prior to baptism, and the light one receives through the gift of the Holy Ghost after entering the Lord's kingdom. Finally, a fullness of light is received when one has proven worthy of the Second Comforter and receives the "more sure word of prophecy" (2 Pet. 1:19; D&C 131:5). (The spiritual spectrum of light is based on statements by Parley P. Pratt in *Key to the Science of Theology,* 9th ed. [Salt Lake City: Deseret Book, 1965], 46–47; and Charles W. Penrose, *JD* 26:21–22.)

In 1884 President Charles W. Penrose, citing section 88 of the Doctrine and Covenants, stated that the physical and spiritual spectrums of light are related and belong to one continuum. Speaking of the Light of Christ, the Spirit of God, he said:

It is the light and the life of all things. It is the light and the life of man. It is the life of the animal creation. It is the life of the vegetable creation. It is in the earth . . . ; it is in the stars . . . ; it is in the moon . . . : it is in the sun, and is the light of the sun, and the power by which it was made; and these grosser particles of light that illuminate the heavens and enable us to behold the works of nature, are from that same Spirit which enlightens our minds and unfolds the things of God. As that light comes forth from the sun, so the light of God comes to us. [Charles W. Penrose, *JD* 26:21]

The scriptures teach that Christ was the creator of the heavens and of "worlds without number" (Acts 14:15; Mosiah 4:2; D&C 14:9; Moses 1:33). Recently NASA focused the Hubble telescope on a remote piece of sky with relatively few stars. Once focused, a second remote piece of sky, a subset of the first, was identified, and the telescope zoomed in on it. Once again another subset area was identified and brought into focus, and then the experiment was repeated a fourth time. This tiny part of our sky that is invisible to the eye revealed stars, galaxies, and "worlds without end" (D&C 76:112). It was full of light. As I viewed the results of the experiment, I was reminded of Abraham's experience with the Lord:

Thus I, Abraham, talked with the Lord, face to face, as one man talketh with another; and he told me of the works which his hands had made;

And he said unto me: My son, my son (and his hand was stretched out), behold I will show you all these. And he put his hand upon mine eyes, and I saw those things which his hands had made, which were many; and they multiplied before mine eyes, and I could not see the end thereof. [Abraham 3:11–12]

From 1820 to the present, one invention and discovery after another has come to pass. In 1879 the light bulb was patented. Thomas Alva Edison's invention extended the day as it brought light to the night and to the dark places of the earth. This followed the 1820 revelation that Joseph Smith received in the Sacred Grove and the subsequent revelations that brought spiritual light to the world. The Lord told Joseph that the restoration of the gospel would be but a beginning to the light that He would pour out upon the earth—not only spiritual light but also light that pertains to this temporal world (see D&C 121:26–32). The discoveries of the intervening years and the accelerating rate at which light and knowledge are being added today are testimonials to the prophecy.

Brigham Young University is part of the miracle of the Restoration. The goal of the university is to be filled with light and truth—both temporally and spiritually. For BYU to be filled with light, the faculty, staff, and administration must have the same goal. We must be diligent and obedient in pursuing truth if we are to become a light both spiritually and within our disciplines. In this way we can be conduits of the full spectrum to our students and to the world. Brigham Young University is unique in the fact that it is the only university that can develop curriculum in the context of the restored gospel. This, therefore, becomes our core competency. And we will succeed only if we are under the constant influence of His Holy Spirit. For Brigham Young there was no division between sacred and secular matters—only between those who live according to eternal principles and those who see only with "the natural eye" and consider holy things "foolishness" (*JD* 1:2).

A recent article in the *Chronicle of Higher Education* reported on a study that determined the common attributes of successful organizations. Prior to the study, some speculated that the factors would include charismatic leadership, complex strategic planning, and elegant mission statements. The findings contradicted these earlier expectations. The key common element was that each organization had a "core ideology—[a set of] core values and sense of purpose." The second was that each organization had a set of goals that were bold and required the best of those within the organization. The third was that they were willing to take risks and experiment. They were not afraid to make mistakes. (Robert C. Allen, "Why Can't Universities Be More Like Businesses?" *Chronicle of Higher Education*, 21 July 2000, B4–B5; quoting from James C. Collins and Jerry I. Porras, *Built to Last: Successful Habits of Visionary Companies* [New York: HarperBusiness, 1994], 8.)

Brigham Young University is unique in that we have a "core ideology" that ties into "the light of truth." If we are devoted to His principles, He will extend to us the power to change lives. If we are bold enough, this will occur not only on campus but around the world. It is important that we encourage "intellectual entrepreneurism" (Allen, "Why Can't," B-5). Some areas in which this is occurring include involving undergraduates in mentored research programs; using technology in the classroom; introducing semester online courses to address bottleneck problems and improve student engagement; allowing undergraduate students access to the new supercomputer; and creating new institutes and centers designed to push forward the frontiers of knowledge.

Educate Minds and Spirits:
Bringing Light to the World Through Teaching

One year ago, four institutional objectives were introduced. The first concerns the quality of teaching in the classroom, the second scholarship, the third extending the blessings of

learning beyond the campus, and the fourth developing friends for the university and the Church. As noted last year, the first two objectives form the foundation upon which the university is built and are critical in our quest for excellence. Moreover, the third and fourth objectives will only be realized if we are successful in achieving the first two. I will comment on all four objectives in the time that remains, but the first and second are of greatest concern. I am particularly interested in the bold moves that must be taken to move ourselves forward intellectually and spiritually.

In an effort to assess the quality of undergraduate learning at this institution, BYU participated in a national survey during the past academic year. The survey is based on research conducted during the last decade that identifies those institutional practices that are the best predictors of student learning and personal development. The practices or principles include:

student-faculty contact, cooperation among students, active learning, prompt feedback, time on task, high expectations, and respect for diverse talents and ways of learning. Also important to student learning are institutional environments that are perceived by students as inclusive and affirming and where expectations for performance are clearly communicated and set at reasonably high levels. [George D. Kuh, "The National Survey of Student Engagement: Conceptual Framework and Overview of Psychometric Properties," appendix in *National Survey of Student Engagement: The College Student Report* (Bloomington, IN: Indiana University Center for Post-Secondary Research and Planning, 2000), 1]

Those interviewed were freshmen and seniors—in order to measure the quality at both ends of the undergraduate experience.

Recently the results were forwarded to our university, and Addie Fuhriman's assessment group was able to compare our practices and outcomes with those at other universities. (I will discuss the general conclusions with you today. The specifics will be available for the colleges and departments within a few weeks.) Overall, we do well. Not surprisingly, there are some areas in which we do very well. But there are two areas in which we fall below the national norm. The successful practices at the university include: student collaboration with other students, prompt feedback, time on task, high expectations, respect for different talents and ways of learning, and a special environment that is inclusive and affirming. The last, of course, relates to the strength of our core values and ideology. We also have high scores with respect to providing a broad general education, in the writing skills demanded of students, and in teaching critical analysis.

The two key areas in which improvement is needed include student-faculty contact and active learning. We fall below national norms in terms of students asking questions in class, making class presentations, participating in cocurricular activities, discussing grades or assignments with instructors, having faculty-student discussions regarding career plans, and working with faculty on activities other than course work.

The data suggest that our students are significantly less active in the learning process in their classes than are students at other institutions, yet they spend more time preparing for class. I suspect that large class size, especially in the freshman year, is partly to blame for less faculty-student contact and for less class participation. Four years ago the board of trustees provided additional resources for the freshman year. Also, the Freshman Academy addresses some of these issues. Still, we can improve.

I believe there are a number of ways in which the weaknesses can be addressed. First, we must continue the effort to reduce class sizes—especially in the freshman year. This will require additional resources. Second, we can extend many of the principles learned in the Freshman Academy to the rest of the freshman class. Third, we are in the early stages of

capturing lecture materials on disk so that time in class can be more interactive. Rather than coming to class to hear a lecture, students should have lectures and other materials available for study before class so that class time can be used for interactive learning. Fourth, we must expand the use of new communication technologies that increase student-faculty and student-student interaction.

A number of other universities have discovered that technology can increase student engagement in and out of the classroom. Historically, technology has been considered a tool for research. Today it is becoming an integral part of the teaching/learning process. For many years technology in a teaching environment was equated with distance education (specifically television courses) and, therefore, with reduced faculty-student interaction. Consequently, it was common to assume a negative correlation between "interactivity" and "online-ness." With the new communication technologies, a positive correlation is possible. In fact, Dr. Laurie Nelson of BYU's Instructional Technology and Psychology Department has developed a matrix illustrating 20 different instructional environments that highlight varying relationships between faculty-student interaction and the degree of online-ness. The matrix fills the full spectrum. (Dr. Laurie Nelson, "Classification of Interactivity and Amount of Instruction Delivered Online: All Variables," http://dle.byu.edu/research/matrix/.)

With respect to technology and connectedness, Arthur W. Chickering and Stephen C. Ehrmann recently noted:

Communication technologies that increase access to faculty members, help them share useful resources, and provide for joint problem solving and shared learning can usefully augment face-to-face contact in and outside of class meetings. By putting in place a more "distant" source of information and guidance for students, such technologies can strengthen faculty interactions with all students, but especially with shy students who are reluctant to ask questions or challenge the teacher directly. It is often easier to discuss values and personal concerns in writing than orally. . . .

. . . Electronic mail, computer conferencing, and the World Wide Web increase opportunities for students and faculty to converse and exchange work much more speedily than before. [Arthur W. Chickering and Stephen C. Ehrmann, "Implementing the Seven Principles: Technology as Lever," http://www.tltgroup.org/programs/seven.html]

All students have access to Route Y either on or off campus. Significant investments have been made during the last six months to rebuild the network core and to expand the bandwidth. In addition, more than 70 classrooms have been outfitted with the latest technology during the last few months so that a faculty member can bring a laptop to class, plug in, and present materials using PowerPoint, Flash, or other software.

A video illustrating efforts at BYU to introduce new technologies into the classroom will now be shown.

Video

As the video illustrates, it is possible for technology to enhance student-faculty interaction, increase student collaboration, and encourage active learning. These tools allow students to enter the learning process in different ways according to their particular talents.

Before leaving the first objective, may I express the admiration of the board of trustees and the administration for the incredible learning environment created by the faculty and staff. You go the extra mile in providing quality learning opportunities and in sharing light and knowledge with students. We appreciate the extraordinary effort on the part of the faculty and the Center for Instructional Design to create new courseware for the campus. The new materials are exceptional. Some faculty may be fearful

that the new courses will be static and inflexible. That is not the intent. Course-development tools continue to improve, and the ease with which changes can be made will increase. We will make some mistakes, but we also will learn how to correct them.

Recently Scott Howell informed me that his Center for Instructional Design may not be needed in another five years because the tools will be so easy to use that each faculty member will create his or her own courseware. We will believe that when we see it. In the meantime, we intend to provide additional support to aid faculty members—individually and as teams—in their efforts to enhance learning materials.

Advance Truth and Knowledge:
Bringing Light to the World Through Scholarly Works

Brigham Young not only understood the importance of disseminating knowledge but also the necessity of being "scholars of the first class" in all areas of learning (*JD* 10:266). On one occasion he said, "Put forth your ability to learn as fast as you can, and gather all the strength of mind and principle of faith you possibly can, and then distribute your knowledge to the people" (*JD* 8:146). For him, science and art are part of our religion (see *JD* 10:177).

Consistent with the statements of the founder of this institution and other prophets who have followed, it is incumbent upon us to "advance knowledge and truth" in a consequential manner. Our research should make a difference and improve life upon this planet. The quality of learning in and out of the classroom is a function of the research and learning effort that supports it. There must be an appropriate balance between teaching and research. No institution of higher education, however, can afford the cost of researching an almost infinite frontier. Universities are becoming more selective in applying research dollars as they identify areas of comparative advantage. This principle applies to us. It is important to have a set of criteria that guides the research effort at BYU. Two guidelines have been developed to date. The first is that those research areas relating directly to the "core values" and mission of the Church will be given preference. The second rule is that university research funds will be directed to areas where the promise of world-class scholarship exists. In some cases the faculty are already on site. In others, one or more scholars on the outside may need to be attracted to complete an inside set of faculty in order to push the knowledge frontier forward. It is important that each college and department determine their areas of comparative advantage and allocate resources in a strategic manner.

Last year I highlighted a few areas of scholarship on campus. During the last few months an attempt has been made to identify additional areas of excellence. It is my desire to illustrate consequential scholarship from various colleges and departments. Most of the scholarship examples are just now coming in and are still being formatted for presentation. The items selected for this year were developed a few months ago by Dean Douglas Chabries. He has graciously allowed me to use them. They are illustrative of the extraordinary scholarship that is ongoing.

The first example concerns the new supercomputer and the breadth of its use across campus. The computer is the result of a major gift to the university. My first impression was that this expensive and powerful piece of equipment would be used almost exclusively by faculty in engineering and the physical and mathematical sciences. To my surprise, faculty and students in the humanities, Religious Education, biology and agriculture, and the College of Family, Home, and Social Sciences, as well as those in engineering and physical sciences and math, are users. Currently there are more than 28 different projects served by the supercomputer, ranging from interactive visualization to language modeling. As one might expect, some faculty and students are

actually using the computer, whereas others are using students from the industrial design major to create visualizations for them. Machine usage is near full capacity and is carefully monitored. As Professor Brent Adams noted in the earlier video, we may be the only university in the nation where undergraduate students are allowed on a supercomputer.

BYU's industrial design program covers three areas: computer animation, product design, and transportation design. Last winter semester Professor Adams and his students worked on a design project with General Motors. Since GM had just acquired the Hummer brand name, they needed a portfolio of Hummer products. BYU students created 19 different designs that could be sold as Hummer trucks. This first animation represents four of those designs. The supercomputer was essential to completing the work within a semester. The jungle snake animation shown today was created by an industrial design student for her senior portfolio. Her work on the computer created a wonderful employment opportunity.

Dr. David Long, a faculty member in the Electrical and Computer Engineering Department, has helped develop an imaging capability using scatterometry radar from NASA's satellites. Using a computer model, he is able to convert radar images to optical images. He can develop optical images from radar pictures taken in the dark, through storms and heavy cloud cover, or 30 to 60 feet below the earth's surface. This can be done because radar is capable of penetrating through otherwise opaque obstructions. The significance of his work with radar imaging is best illustrated by a recent event. Dr. Long and his students were studying images of Antarctica and discovered a large iceberg the size of the state of Rhode Island floating in the shipping lane between the tip of South America and Antarctica. After some investigation they notified the National Ice Center and discovered that the iceberg in question had been lost due to darkness and storms. Would Dr. Long provide the location? Dr. Long and his students continue to provide data using the radar and optical imaging technology. Several newscasts have featured the story and continue to track the developments as the iceberg is now breaking up.

Using this same technology, Dr. Long and associates have been able to study wind dynamics by tracking wave height and direction. The scatterometry radar images allow the detection of waves, including their height and speed—which enables the tracking of wind direction and strength. The wind model shown is of Hurricane Dennis, which hit the eastern seaboard in 1999. The model was built by a student using the scatterometry technology and a computer model. Before the supercomputer became available, it took more than a year to solve the model and obtain the data necessary to track the storm. The supercomputer generates a solution in less than one day. The algorithms are proving to be quite accurate in forecasting storm movements and are being adopted by the National Weather Service.

Using a different imaging technology, that of infrared, BYU researchers have been able to recreate ancient writings and art. The infrared imaging technology allows researchers to focus on the spectral reflections of the inks and paint in ancient artifacts. Computer models are then produced that recreate the original documents. This work has solicited invitations from the National Gallery of Art and most recently from the Christian Syriac Church to image documents that are stored in the Vatican Library. BYU researchers are currently working in the Vatican and in Lebanese monasteries in the Middle East digitizing ancient rare Christian documents before they are destroyed or lost.

The above are a few examples that illustrate the quality of research conducted by BYU faculty and the involvement of students in that research. Again, I am interested in identifying

and recording examples of scholarship from every college and department.

Extend the Blessings of Learning:
Bringing Light to the World Through Distance Education

The third institutional objective is to extend the blessings of learning that transpire on this campus to students across the world who would like to be with us but do not have the opportunity. There are four approaches being pursued. Last year we highlighted "interactive extended learning," where BYU professors and students in mechanical engineering worked in synchronous mode with professors and students in Tokyo; in Monterrey, Mexico; and at Ricks College.

A second approach is distributed learning, in which courseware and materials are available on the Internet. At present BYU has more than 150 courses on the World Wide Web—100 university courses and more than 50 high school courses. The off-campus online program was initiated three years ago and is administered by the Division of Continuing Education along with their paper and pencil courses. In early August the 10,000th student enrolled on the Internet. The rate of new enrollments is 1,100 per month and increasing. If the pattern continues, online/off-campus enrollments will exceed 15,000 by the end of the year. At last count, students from 22 countries have participated. In addition, the Division of Continuing Education still has more than 40,000 off-campus students taking paper and pencil courses. Unfortunately, the quality of the paper and pencil program is less than that of the online courses because of the delivery mechanism.

A third approach to extending the blessings of learning is the creation of a digital library that will serve faculty and students on and off campus. A discussion of the digital library will be reserved for a later time.

The fourth approach is media streaming, which I will briefly highlight. KBYU-TV is a classic example of media streaming. During the past year BYU had the opportunity to create a second TV station that is named BYU-TV. DISH Network, a satellite company serving almost four million homes across the nation, approached us and offered a channel for a reasonable fee. BYU-TV is not a public service station and has more program freedom than KBYU-TV. It becomes an outlet for BYU programming in all its forms.

Shortly after the initiation of BYU-TV, my wife, Marilyn, received an early-morning phone call from a friend in Pennsylvania. More than 25 years ago we lived near Lancaster, Pennsylvania, and became friends with Robert and Kathy Brueninger during the time they were investigating the Church. They joined the Church soon after we met them, and one year later we accompanied them to the Washington D.C. Temple, where they were sealed as a family. They have been stalwarts of the Church for more than 25 years. Their children have grown, attended BYU, found their spouses here, and graduated. The Brueningers have been a model convert family. When Marilyn picked up the telephone, it was Kathy Brueninger on the other end.

She began by saying, "Guess what?"

Marilyn had no idea. "Tell me!"

Kathy then indicated that she and Bob had purchased a DISH Network satellite, which had been installed the night before. That morning Kathy had turned the TV on and was switching channels when suddenly she saw a familiar face. It was the January 2000 devotional in which Marilyn and I were speaking. She was unaware that BYU-TV was even on the DISH Network. As she told Marilyn about her experience, she started to cry. And then she said these words: "For the first time since we joined the Church, I feel fully connected! I can now participate in the BYU devotionals! I can watch general conference and Women's Conference in my own home! We can watch the CES firesides and relive Education Week."

As soon as their conversation ended, Marilyn called me at the university and relayed the story.

I have pondered the meaning of the event in Kathy Brueninger's life and have concluded that we do not fully appreciate or understand the importance of this university to the membership of the Church. Technology is enabling the university to reach the world. It is becoming an incredible asset in the Church's arsenal to build a worldwide community of Saints—to build Zion. It requires the very best of us! We must meet the challenge!

Developing Friends:
Bringing Light to the World Through Friendships

In today's globalized world, no one is an island. Our light must shine clear and bright and extend not only to the members of the Church but to people in nations where the gospel light is dim or nonexistent. Recently, as I prepared an address for the Women's Conference, the opportunity for BYU to make a profound and lasting difference in large, highly populate areas of the developing world became clear to me. Over a year ago we determined to build strategic educational partnerships with a few special, focus countries. As time has passed and contacts have been made, it has become clear that these partnerships may include technologically based, cost-efficient ones as well as the more traditional ones. For example, Web-based efforts to teach English as a second language or computer skills may offer tremendous economies of scale in helping third-world citizens improve their educational and employment skills.

As we move forward in the process of developing friends, it is important that university personnel conduct international outreach activities according to a set of commonly held institutional guidelines. These guidelines or principles will help integrate our international efforts within BYU's four institutional objectives. If the principles are adhered to, BYU's international efforts will serve the university as well as its friends.

Our current thinking has identified seven principles to guide international activities:

1. Academic strength
2. Wise resource use
3. Personal and institutional safety
4. Strategic value
5. Cultural and political sensitivity
6. Adherence to welfare principles
7. Close coordination with Church officials

I will comment briefly on each one:

1. The first question to be asked regarding any international program is, "How strong is the link to academic programs?" What legitimate academic goal or requirement for students does the activity meet? Is it part of department and college objectives, consistent with regular departmental curriculum? Does it build academic reputation and connections and enhance faculty expertise and scholarship?

2. Wise resource use considers human, financial, and other resources for BYU, the Church (including members), and students. Wise resource use weighs strategic importance with costs and benefits and leverages student and faculty expertise and abilities.

3. Personal and institutional safety requires that students, faculty, the Church, and the university not be put in compromising, illegal, or unsafe positions and that personal health not be jeopardized.

4. Strategic value asks that international activities address areas of priority for the university, Church, college, and department without interfering with time to graduation. At the same time such activities should be in harmony with the aims of a BYU education.

5. Cultural and political sensitivity prepares students for respectful and appreciative interactions with others and with an understanding of the social, economic, political, historical, religious, and cultural context of their experience. The sensitivity implied avoids creating expectations that cannot continue to be met; considers

the "ripple effect" of activities and the effect of terminating the relationship or activity; and avoids the appearance of siding with or supporting one political side or faction versus another.

6. When service is provided, it follows general welfare principles. Such service responds to a locally defined and generated need or problem; is sustainable and scalable once initiated; supports personal and family responsibility and preparedness; promotes self-reliance and does not create expectations that cannot be met; avoids creating an added burden to local Church members; and is correlated through appropriate Church channels when service is given to members.

7. The last principle is that international activities must be coordinated within the university and with the Church. Sandra Rogers is responsible on campus for the university's international affairs. It is important that anyone desirous of developing an international program counsel with her and keep her informed. She, in turn, will coordinate our activities with Church officials.

When these principles are followed, great results accrue. Just last week a BYU faculty and student group returned from a successful exchange in the Ukraine, where students contributed to public health awareness and religious tolerance and taught standing-room only English lessons as a community service.

Summary

In closing, it is my hope that we appreciate our opportunity to be a light to the students on campus. It is my dream that we will appreciate and commit to the destiny of Brigham Young University in its mission to take the full spectrum of light across the world. It is my personal belief that this university is an integral part of Zion and will share in her final triumph. I believe Brigham Young University will be a crown jewel in the New Jerusalem. John the Revelator, on the isle of Patmos, was shown the transformed earth and the conditions that will prevail when that day comes. May I close with his words:

And I saw a new heaven and a new earth: for the first heaven and the first earth were passed away. . . .

And I John saw the holy city, [the] *new Jerusalem. . . .*

And he carried me away in the spirit to a great and high mountain, and shewed me that great city, the holy Jerusalem, descending out of heaven from God. . . .

And the wall of the city had twelve foundations, and in them the names of the twelve apostles of the Lamb. . . .

. . . And the city was pure gold, like unto clear glass. . . .

And I saw no temple therein: for the Lord God Almighty and the Lamb are the temple of it.

And the city had no need of the sun, neither of the moon, to shine in it: for the glory of God did lighten it, and the Lamb is the light thereof.

And the nations of them which are saved shall walk in the light of it: and the kings of the earth do bring their glory and honour into it.

And the gates of it shall not be shut at all by day: for there shall be no night there. [Rev. 21:1–2, 10, 14, 18, 22–25]

May all of us live so that we can be together in that great city and receive the reward of a work well done is my prayer in the name of Him who guides the Church and this university, even Jesus Christ, amen.