Elder Richard G. Scott

Elder Richard G. Scott is a member of the Quorum of the Twelve Apostles.

Realizing that this is probably the only time that I will be in the presence of many of you, I thought that I would try and share some principles that I know are true. They have been verified in the crucible of my own personal life. I have tried to include many important principles and illustrate them with practical examples of my own experiences in engineering and technology.

I thank Dean Alan Parkinson for the privilege and honor to participate in this symposium organized by the Ira Fulton College of Engineering and Technology as well as Religious Education. I also express profound gratitude to Ira and Mary Lou Fulton for their exceptional support of so many facets of activity at the Ira Fulton College of Engineering and Technology.

How privileged each of you are to attend a university where a discussion of ethics is not based on the concepts of men, as in other universities, but upon the unchanging truths of the gospel of Jesus Christ. Ethics, to be properly understood and followed, needs a crystal clear foundation.

However, when expressed in human terms, it is often the subject of misunderstanding or manipulation. At this university, *ethics* is broadened to encompass integrity, honor, and moral character as defined by the Savior. How appropriate that the subject chosen for this symposium is "The Gospel: The Foundation for a Professional Career."

My professional career was in the field of nuclear engineering. It embodied the harnessing of the tremendous capacity of nuclear energy to the protective defense systems of submarines, cruisers, aircraft carriers, as well as land-based power plants.

It was my extraordinary fortune to serve with men of high integrity. While many did not have religious affiliations, they understood and lived the principles of honesty, integrity, and devotion to a worthy cause. They worked cooperatively to fulfill demanding objectives. I can think of only one exception when a competent engineer began to show interest in immoral material after work. He soon isolated himself from the support and teamwork of the other engineers, who would not accept such a lifestyle even on his own private time. No disciplinary action was needed. He had to resign for lack of support.

The unwavering integrity and personal discipline that come from living a gospel-centered professional life are evident. Yet there is one additional advantage I would like to emphasize. It is your ability to be led and guided by the Holy Spirit, not only in private life and in church, but in the day-to-day professional experiences you will encounter.

I come to you as a friend with the intent to help you at this critical stage of your professional development. I remember the excitement of learning new concepts and principles and acquiring increased understanding of subjects like quantum theory, boundary value problems, nuclear physics. You face those old friends as well as a bewildering array of new subjects that did not even exist when I was studying.

In all honesty, I also had feelings of uncertainty and concern, as you must have in this period of life when you need to make vital decisions. You will wrestle with some like, should I fulfill a mission? will I be a successful professional? and who will be my eternal companion? I will share some principles that I believe will help you at this critical stage of life. In my mind, no discipline is better suited to learning and applying truth than engineering.

Most engineering students depend primarily on what they *hear* and *read*. I counsel you to use all three avenues of learning available to you: what you *hear*, what you *see*, and what you *feel*. We read in the Doctrine and Covenants, "Seek ye diligently and teach one another words of wisdom; yea, seek ye out of the best books words of wisdom, seek learning *even by study and also by faith*" (D&C 109:7; emphasis added).

The phrase "even by study and also by faith" is illuminating. It confirms that there is more than one way to acquire truth. Together let us review two different ways to learn; both are essential in the development of your professional capacity.

Discerning Truth Scientifically

We will call the first way to learn the scientific method. With it, a group of facts, data, or other information can be combined, analyzed, and synthesized into a theory or postulated principle. Or conversely, we can advance a proposed principle and then perform experiments to establish its validity. The scientific method is a valuable, sound way to seek truth. The scientific method has two limitations, however. First, we never can be sure that we have obtained absolute truth, though often we draw nearer and nearer to it. Second, no matter how earnestly and sincerely we apply the scientific method, sometimes we come up with the wrong answer.

Many of you will remember that Neils Bohr postulated an early theory of matter. He suggested that an atom consists of a positive nucleus of neutrons and protons about which revolves one or more negative electrons. As others applied his theory, they made great contributions in fields such as chemistry. The periodic table was organized using his theory as a key. Yet further investigation proved that his was a childlike description of matter. More scientific effort has brought us yet a fuller understanding. We now are conceptually and experimentally evaluating other building blocks, including quarks. While information now available has tremendously expanded since the time of Neils Bohr, no one can claim that we have determined the absolute essence of matter.

Some deny the fact that there is any other way to find truth beyond the scientific method. I remember early in the days of my nuclear engineering experience, we were experimenting to confirm some of the

early mathematical equations used to analytically express nuclear reactions. A small reactor had been assembled from aluminum-clad uranium alloy fuel assemblies. Three of us took turns at the reactor controls as we carefully removed the control rods. I happened to be at the control panel when the count rate meter indicated that the reactor had gone critical. It was an exciting moment. I looked into the pool and could see Cherenkoff radiation, that iridescent blue light resulting from particles moving faster than the speed of light, in the moderating water.

Later, we measured experimentally the cross sections of some materials as a function of the energy of impinging particles, using a high energy beam emanating from a graphite-moderated nuclear reactor. The beam was deflected by a metallic crystal into an experimental apparatus, much as light is deflected by a mirror. At one point a young janitor approached the experiment evidencing a total disgust for our efforts. He did not understand them, nor did he want to understand them. With an air of disdain, he proclaimed that we were dishonest, wasting money, and doing nothing that had any real meaning. To show his contempt, he reached for the crystal that deflected the beam with intent to rotate it. Had he not been stopped, that powerful beam of nuclear particles would have been deflected into the room. His "if you can't see it, taste it, smell it, feel it, or hear it, then it doesn't exist" attitude is all too prevalent in the world today.

Discerning Truth by Asking in Faith

You will encounter challenges when you speak of spiritual matters. Yet they are an essential part of the second means of learning, namely, to simply go to the origin of all truth and ask. This "ask in faith" method differs from the scientific approach in that certain additional principles must be followed unwaveringly.

You have observed how some engineers who in their private lives do anything but follow gospel standards are successful in the scientific method. This is not the case when you endeavor to find pure truth directly from the source—our Lord, Jesus Christ.

Three ingredients are essential: first, an unwavering faith in Jesus Christ and His teachings; second, resolute obedience to His commandments; and third, willingness to apply His truth to all aspects of life. Through the "ask in faith" pattern, you can open the avenues of clear communication with God. Through such a channel, you can receive positive, identifiable inspiration concerning a matter that you have labored and wrestled with prior to asking the Lord for help.

Both the scientific and the "ask in faith" methods will be needed in your life. I am not sure of all the reasons the Lord requires you to use both methods. His reasons concern, in part, the growth, development, and experience that He expects you to acquire here on earth. I do know that the more diligently you work with the scientific method, the more easily He responds when there is no alternative but the "ask in faith" method.

The Value of a Mission

My going on a mission was in part an "ask in faith" decision, but much of the motivation to inquire came because a beautiful young lady whom I very much loved quietly said, "When I marry, it will be to a returned missionary in the temple."

As I look back, I realize that all that I truly cherish in life began to mature from that decision to be a missionary. Many of the beautiful experiences of life, and I feel even now the sacred calling that I hold, would not have come except for that decision.

Within days of returning from what was a marvelous mission, I was sealed in the temple to that beautiful woman. I began to work as an engineer at the bottom rung of the ladder. One of my professors had predicted that would happen if I gave up the excellent job I had been offered to be a missionary. For a time, he was right.

I then began to experience how the Lord blesses those who in faith are obedient to His counsel. Within a few weeks, I was invited to an interview with a Captain Rickover. He later became an admiral, the Father of the Nuclear Navy. My wife and I packed up our things and drove to Washington D.C., where the interview was to be held. I was shaken to find that twenty-six other men had been invited for an interview for one position. They appeared to be far better qualified than I was. Most of them had considerable professional experience.

After a series of preliminary interviews, I finally sat before Captain Rickover. He was a small, slight-of-frame individual, but intense, penetrating, and very much in charge. He began to fire questions like

a machine gun, and I responded very poorly. To answer one query, I began, "After my mission."

He interrupted and said, "What mission? What do I care about your mission?" That offended me. I felt that I wasn't going to get the job anyway, but I didn't want him to demean what I cherished so much. I decided that, from then on, to every question he asked, I was going to give him an answer right back in his face.

"What was the last book you read?"

"The Book of Mormon."

"When you graduated, what standing did you have?"

"I don't know, maybe in the upper ten percent."

"What number?"

"I don't know, sir; those things didn't matter to me."

"How did you pay for your education?"

"Scholarship."

"Who gave you the scholarship?"

"Emma Kerr."

"Who was she?"

He got me on that one. I didn't know who she was, but she really helped me receive a good education.

It went on like that for a few more minutes. He paused, and I stood up ready to leave. Then he said, "Just a minute, Scott, sit down. I want you to work for me. I have been testing you to see if you could handle the pressure you are going to be under, and if you can think on your feet." In my mind I thought, "Thanks to my mission."

I encourage you, if you have not done so, to fulfill a mission, in part to show gratitude to the Lord for your many blessings and to help others find purpose, meaning, and happiness in their lives. A mission will help you learn how to pray and how to recognize the promptings that come from the Spirit in answer to prayer. It will enhance your subsequent university training as well as your continuing success in life.

Formula for Success

Let us consider for a moment a formula for success:

Success = $[abc]^{\alpha}$

It is expressed as a simple equation; this is not tensor analysis, just some factors with an exponent. For purposes of clarity, I have reduced the equation to fundamental elements. I recognize that I have oversimplified the interaction of powerful principles, but it is my objective to place you on a path that will lead you to outstanding accomplishment.

As you understand broader principles through your experience, you will fine-tune the elements to enrich your life with great purpose, accomplishment, and happiness.

This is the format we will use.



Let us consider each relevant factor. First, *define a clear goal*, a worthy objective.



Incidentally that was the problem with the effort to try to put a nuclear power plant in an airplane. The goal just simply did not account for the practical fact of enormous weight and shielding, the irradiation that a pilot would get, and the tremendously adverse consequences if there ever were a crash.

You must *decide* to pursue your objective with singleness of purpose.

$$Success = \left[\frac{\begin{pmatrix} Define \\ goal \end{pmatrix} (Decide)}{1} \right]$$

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Once in a while, just to get you focused right, you will burn your bridges behind you to dedicate yourself to attaining your objective, so there is no other way out.

You must plan.

$$Success = \left[\frac{\begin{pmatrix} Define \\ goal \end{pmatrix} (Decide) (Plan)}{\begin{pmatrix} Plan \end{pmatrix}} \right]$$

This includes necessary research, sorting out alternatives, while concentrating on proper principles in appropriate sequence. It represents a tedious, detailed effort to move from where you are today to the future goal you plan to obtain.

You must work hard.

$$Success = \left[\frac{\begin{pmatrix} Define \\ goal \end{pmatrix} (Decide) (Plan) (Work \\ Hard \end{pmatrix}}{2} \right]$$

I mean concentrated, long hours of hard work. When distractions and temptation to give up are ignored, you will taste the joy of accomplishment, the reward for your concerted effort.

You need to follow up.

$$Success = \left[\frac{\begin{pmatrix} Define \\ goal \end{pmatrix} (Decide) (Plan) (Work \\ Hard \end{pmatrix} (Follow \\ up \end{pmatrix}}{}\right]$$

This means a periodic intelligent review and analysis of your progress as you implement the plan. Follow-up anticipates the need to occasionally modify and upgrade the original plan. The experience

you gain as you move forward will often prompt you to make improvements. Follow-up includes a continual evaluation of progress against the original goal.

One of the products of experience is a sixth sense of knowing when to act on a plan and when to adjust it. It is like jumping from rock to rock across a stream—after each successful leap, there is a reevaluation to determine if there is a better route. Remember to coordinate action and adjustment so that you avoid the consequence of making a course adjustment in the middle of a mighty leap to another rock.

The factor *use skills* represents all of the training and experience you have acquired in all aspects of life.

$$Success = \left[\frac{\begin{pmatrix} \text{Define} \\ \text{goal} \end{pmatrix} \begin{pmatrix} \text{Decide} \end{pmatrix} \begin{pmatrix} \text{Plan} \end{pmatrix} \begin{pmatrix} \text{Work} \\ \text{Hard} \end{pmatrix} \begin{pmatrix} \text{Follow} \\ \text{up} \end{pmatrix} \begin{pmatrix} \text{Use} \\ \text{skills} \end{pmatrix}}{\begin{pmatrix} \text{Work} \end{pmatrix} \begin{pmatrix} \text{Follow} \\ \text{Work} \end{pmatrix} \begin{pmatrix} \text{Work} \\ \text{Hard} \end{pmatrix} \begin{pmatrix} \text{Follow} \\ \text{Work} \end{pmatrix} \begin{pmatrix} \text{Work} \\ \text{Hard} \end{pmatrix} \begin{pmatrix} \text{Work} \\ \text{Work} \end{pmatrix} \begin{pmatrix} \text{Work} \\ \text{Hard} \end{pmatrix} \begin{pmatrix} \text{Work} \\ \text{Work} \end{pmatrix} \end{pmatrix} \begin{pmatrix} \text{Work} \\ \text{Work} \end{pmatrix} \end{pmatrix} \begin{pmatrix} \text{Work} \\ \text{Work} \end{pmatrix} \begin{pmatrix} \text{Work} \\ \text{Work} \end{pmatrix} \end{pmatrix} \begin{pmatrix} \text{Work} \\ \text{Work} \end{pmatrix} \begin{pmatrix} \text{Work} \\ \text{Work} \end{pmatrix} \end{pmatrix} \begin{pmatrix} \text{Work} \\ \text{Work} \end{pmatrix} \begin{pmatrix} \text{Work} \\ \text{Work} \end{pmatrix} \end{pmatrix} \begin{pmatrix} \text{Work} \\ \text{Work} \end{pmatrix} \begin{pmatrix} \text{Work} \\ \text{Work} \end{pmatrix} \end{pmatrix} \begin{pmatrix} \text{Work} \end{pmatrix} \begin{pmatrix} \text{Work} \\ \text{Work} \end{pmatrix} \end{pmatrix} \begin{pmatrix} \text{Work} \\ \text{Work} \end{pmatrix} \end{pmatrix} \begin{pmatrix} \text{Work} \\ \text{Work} \end{pmatrix} \end{pmatrix} \begin{pmatrix} \text{Work} \end{pmatrix} \end{pmatrix} \begin{pmatrix} \text{Work} \\ \text{Work} \end{pmatrix} \end{pmatrix} \begin{pmatrix} \text{Work} \end{pmatrix} \end{pmatrix} \begin{pmatrix} \text{Work} \end{pmatrix} \end{pmatrix} \begin{pmatrix} \text{Work} \end{pmatrix} \begin{pmatrix} \text{Work} \end{pmatrix} \end{pmatrix} \end{pmatrix} \begin{pmatrix} \text{Work} \end{pmatrix} \begin{pmatrix} \text{Work} \end{pmatrix} \end{pmatrix} \begin{pmatrix} \text{Work} \end{pmatrix} \end{pmatrix} \end{pmatrix} \begin{pmatrix} \text{Work} \end{pmatrix} \begin{pmatrix} \text{Work} \end{pmatrix} \end{pmatrix} \begin{pmatrix} \text{Work} \end{pmatrix} \end{pmatrix} \begin{pmatrix} \text{Work} \end{pmatrix} \begin{pmatrix} \text{Work} \end{pmatrix} \end{pmatrix} \begin{pmatrix} \text{Work} \end{pmatrix} \end{pmatrix} \begin{pmatrix} \text{Work} \end{pmatrix} \end{pmatrix} \begin{pmatrix} \text{Work} \end{pmatrix} \end{pmatrix} \end{pmatrix} \begin{pmatrix} \text{Work} \end{pmatrix} \begin{pmatrix} \text{Work} \end{pmatrix} \end{pmatrix} \begin{pmatrix} \text{Work} \end{pmatrix} \end{pmatrix} \begin{pmatrix} \text{Work} \end{pmatrix} \end{pmatrix} \begin{pmatrix} \text{Work} \end{pmatrix} \end{pmatrix} \begin{pmatrix}$$

Another potential factor is *fear*. Unless controlled, it will thwart your success.

$$Success = \left[\frac{\begin{pmatrix} \text{Define} \\ \text{goal} \end{pmatrix} \begin{pmatrix} \text{Decide} \end{pmatrix} \begin{pmatrix} \text{Plan} \end{pmatrix} \begin{pmatrix} \text{Work} \\ \text{Hard} \end{pmatrix} \begin{pmatrix} \text{Follow} \\ \text{up} \end{pmatrix} \begin{pmatrix} \text{Use} \\ \text{skills} \end{pmatrix}}{\begin{pmatrix} \text{Fear} \end{pmatrix}}\right]$$

You will observe that you are in control of all of the factors within the brackets. You decide how much they will be emphasized. If any factor in the numerator approaches zero, so does the desired success. Similarly, if fear increases, success diminishes. You have got a help in the scriptures, for the Lord said, "If ye are prepared ye shall not fear" (D&C 38:30). That promise applies to all things in your life, and you are getting wonderful preparation here now. This equation could have been developed anywhere, but it has very limited potential.

Formula for Greater Success

We will now consider another equation with far greater power. It results from your living the gospel.

$\frac{\text{Greater}}{\text{Success}} = \left[\begin{pmatrix} \text{Important} \\ \text{factors} \\ \text{already} \\ \text{discussed} \end{pmatrix} \left(\text{Vital spiritual factors} \right) \right]^{\text{Exponential}}$	inent
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An equation for *greater success* contains the factors we have already discussed plus two vital additional spiritual factors.

Greater Success =	(Important factors already discussed)	Obey the commandments	Seek spiritual guidance	Exponent
	factors already		Seek	Expone

They convey the power of obeying the commandments and seeking spiritual guidance in your professional activities. The equation's exponent has unlimited capacity to magnify your efforts when needed. It is the *power of God* when you qualify for it.



Perhaps some among you think it strange, or even feel a little uncomfortable, to combine gospel principles with the hard, cold realities of engineering, education, and technology. I confess that for the majority of my undergraduate work, I placed in distinct compartments the things I learned in the sciences and the things I learned from the study, pondering, and application of gospel truths. It was not until after I had completed my undergraduate work and had the blessing of going on a full-time mission to Uruguay that I began to see how the two were intended to be combined.

I found that consulting in the field of nuclear fuel assembly, design, and performance required the most devoted, faithful application of principles, technology, analysis, and garden-variety hard work. I also found it was essential to couple those professional characteristics with the eternal principles learned by study and application of the teachings of the gospel.

Examples of Applying the Formula

Perhaps one practical experience will demonstrate what I mean. I was fortunate to work professionally on the cutting edge of new technologies where most of the time what was needed to be done had never been done by anyone before. Technology changes so rapidly that many of you will have that same opportunity.

I left my assignment in the naval nuclear program on the immediate staff of Admiral Rickover when I was called to preside over a mission. Upon my return I accepted the opportunity to work with a small consulting firm made up of men whom I had served with before. I greatly admired them because of their technical competence and high personal integrity. The work was in the field of nuclear engineering. It was to assure that there was adequate assurance in the building of new power plants. It was not associated with reactor fuel element design and testing and fabrication, those areas to which I had devoted my professional life. I was told that I would have to develop abilities in a different area because the large companies that provided the heart of nuclear power plants considered their fuel element designs to be the most sensitive, highly guarded, proprietary information they controlled. Therefore, they employed no outside consultants to help them in those critical areas.

I must confess that the thoughts, "It can't be done; you can't do it" did something inside me. Deep down in my mind, I resolved that some way, some time, I would either climb over that barrier, tunnel under it, dismantle it, or plow through it. In some way I would find a way to work again in the challenging, exhilarating field of fuel development that I had enjoyed so much prior to my missionary assignment. When somebody tells you you cannot do it, that gives you a motivation to go to work.

It took some time and effort and a great deal of personal preparation to become familiar with the changes that had occurred in an exploding technology during the four years that I was in the mission

field. Yet slowly, lines of communication were extended, confidence developed, and in time I was enjoying again the privilege of working on the leading edge of a fascinating technology. I mention this personal experience to illustrate that difficult, worthwhile objectives are honorable and attainable when the proper gospel and engineering principles are followed.

In the early development of the nuclear reactor, the engineering challenges were enormous. One of the first barriers was the extreme complexity of the nuclear calculations. They then had to be incorporated into the reality of operating power plants that functioned under extraordinary transients in nearly impossible environments. Many problems were resolved by the first large-scale application of digital processing to physics and engineering calculations.

Those calculations illustrate how technology has advanced. In the little handheld calculators you have today, you have more capacity than was built into one of those huge buildings filled with vacuum tubes that was used for calculations. To show you how technology has modified, as an exercise we would calculate sequences and then give a pulse to a speaker so we could get different tones, and by controlling those cycles we could play music. I remember at Christmastime having that marvelous huge building playing "God Rest Ye, Merry Gentlemen," and at the end on the screen flashed a "Merry Christmas"—childlike things for you with the tools you have now. That just shows how that effort has spanned magnificent growth and development in numerous allied fields.

I recall, at one point, it became very important to measure the instantaneous temperature response of fuel elements during significant in-reactor testing. The fuel elements were clad with a special material called zircaloy, a highly corrosion-resistant zirconium-based alloy. The only available thermocouples were clad with titanium. To obtain the required time-response characteristics, the titanium thermocouples had to be fused to the zircaloy cladding. No one had ever been able to weld the two materials together without either destroying the thermocouple or producing an alloy that was not resistant to the highly corrosive reactor environment. Electron beam welding was not feasible because of the massive chamber required to provide the high vacuum necessary for

successful welds. Numerous efforts and alternative approaches finally produced a workable weld, using a highly focused laser. That technology has grown so extensively that it has now become a rather commonplace solution to difficult joining problems.

Consider another example of the application of gospel and engineering principles:



In a boiling water type nuclear reactor, the nuclear fuel is contained in sealed zircaloy fuel rods. I have simplified that by not showing all the detail. These rods are accurately positioned by fuel grids in basic building blocks called fuel assemblies. Each fuel assembly is housed in a zircaloy fuel channel; these are three to four feet in length to satisfy the thermal and hydraulic requirements of the reactor design. Four fuel channels are placed in an array within the reactor to form a cross-shaped channel into which a control rod moves. Since nuclear irradiation causes the fuel rods and fuel channels to distort with time, it is imperative to control the reactor operation so that such distortion does not close the control rod channel. They can bend along the length. They can be distorted, so you have to be very, very careful not to close that channel. The ability to scram the reactor, that is, rapidly insert the control rods, absolutely must be available should an emergency arise that would warrant shut down of the reactor.

An electrical utility wanted to extend the useful life of its nuclear fuel assemblies. The company that designed the reactor fuel and manufactured the fuel assemblies established rigid controls on the amount of fuel depletion allowed before replacement of the fuel assemblies was required. This limit was considerably less than the real life of the fuel assembly from the standpoint of nuclear fuel depletion. There was still a

lot of energy left in the assemblies. The utility asked if it would be possible to use the fuel for longer periods of time without replacement. The fuel fabricator refused to provide any information to allow the utility to make calculations to extend fuel life. The utility was not sure whether the refusal was motivated by a desire to sell more of the expensive fuel or because there were really physical limits that prevented further irradiation to the fuel. A favorable decision would mean literally millions of dollars a year in savings to the utility in fuel life if it could be further extended, and also refueling costs would be reduced.

One day, after investing weeks of review and evaluation, I had a strong impression—that is the word you want to remember in your profession, live to qualify for it—of how to resolve the problem. The utility supported the recommendation. As a result, we built a device which remotely measured, under water, distortion in irradiated fuel channels that had experienced a wide range of operating conditions. This information was fed into a computer. By combining the distortion measurements with the known neutron flux, fluence, temperatures, orientation, and other pertinent facts, we were later able to perform regression analyses that produced correlations accurately predicting fuel channel distortion under irradiation.

One of the great concerns in the industry was how much irradiation distortion occurred because of residual stresses produced during the manufacturing of the fuel channels and how much occurred because of the influence of irradiation itself. By properly selecting test assemblies, we determined that even a severely cold-worked fuel channel did not distort significantly from manufacturing effects. This allowed the utility to purchase adequate, but less expensive, fuel channels. The correlation to predict radiation performance allowed them to save substantial quantities of money by extending irradiation of fuel assemblies without adverse effects on the control rod operation.

We have been discussing eternal principles. Please understand that inspiration and professional activities cannot be based upon slipshod or careless efforts. No one should ever ask the Lord's help in an engineering project for which he has not put forth his best effort. Seeking help from the Lord is not a shortcut to avoid hard work. Such help generally comes after we have done that which is within our power to control. When we undertake something in a technical field, I believe with all my heart that our efforts should be backed up with careful calculations, evaluation, analysis, and the application of crosschecks and tests. Then those who depend upon us have the assurance that we have been honest and that we have followed the highest levels of personal integrity.

Personal Integrity

Personal integrity is essential to lasting success in technical areas, as well as it is in every other meaningful endeavor of life. Once, the vice president of a company that was building our nuclear reactor fuel asked me to eliminate a significant amount of work that he claimed was not necessary. He said this change would not require an adjustment in the contract price because they had worked hard on other matters. The suggestion was unfair to the buyers, and I felt it was dishonest. With him seated in front of me, I called the company's chairman of the board and said, "Mr. So-and-so is in my office recommending that the qualification of subassembly fabrication that is part of your contract be confidentially eliminated without a price adjustment. I am sure he has not discussed this matter with you because of your high professional integrity. If you assure me that he will have no further responsibility for any of our work, we can continue our fine working relationship."

Throughout my professional experience, there has never been a single circumstance in which I have been ashamed of my principles. When I began, occasionally my principles would be questioned, but I found that with consistency in application and with more professionally competent individuals, there were fewer and finally no adverse references to the principles that I cherish in my own personal life.

Conclusion

With all of the energy of my soul, I encourage you to master the principles, the technologies, the techniques available to you from your professional studies at this university. Combine them with an understanding of the gospel plan you can likewise master here.

I have discovered that scientific methods are useful, but they do not guarantee that the proper result will always be found. They can, at times, even lead you down blind alleys. I have found, however, that the combination of scientific methods with the seeking of pure truth by the exercise of unwavering faith and consistent obedience to the Lord's commandments produces a combination that is tremendously effective in providing a solid foundation of knowledge and truth. With such a foundation, the heights of service and attainment you can reach are limitless.

As you combine academics with eternal doctrinal truths, you will discover what it means to be a divine child of Father in Heaven with perfect attributes. You will live worthily to overcome the influences of the world. You will be inspired to have power beyond your own—power to do, power to serve, power to give. You can qualify through that divine power to be instruments in the hands of God and can accomplish what would be impossible alone.

Other schools, as well meaning as they are, build on the individual and train his or her capacities. All the students have when they leave is acquired knowledge and trust in themselves. Here we teach you that you are divine children of a Father in Heaven, capable in time of acquiring His perfect attributes. Your potential is unlimited through your correct application of true principles and a worthy life that qualifies for inspiration and divine power.

Here you will learn how to make your worthy dreams a reality. Here you will gain the capacity to create a vision of your true potential and then, through the application of correct principles and eternal truths and the consistent, appropriate use of moral agency, begin to convert that truth, that potential, into reality.

I have had a feeling to share one other thing that I learned from Elder Spencer W. Kimball when he was an Apostle and I was a young mission president. He said, "President Scott, are there any things you don't understand about the gospel?"

And I said, "Yes, there are."

He said, "What do you do with them?"

I said, "I just set them aside because there's so many things that I know I have access to and can understand, if I study and apply them well."

He said, "That's right. There are some things I don't understand."

In my mind the thought came, yet I didn't express it, "But you are an Apostle; how could there be any things you don't understand about the gospel?"

He then said, "I've set them aside through the years; now I see them from a different perspective, and almost all of them are resolved."

You will have people come to you with what appears to be very solid scientific evidence that conflicts with the confidence and trust you have in doctrine. Do not worry about it. The problem comes when we take incomplete scientific information and apply it to perfect truth. There are some scientific things that I know about that I cannot fully explain, but it does not change my testimony of truth. It does not change the absolute confidence I have that Joseph Smith was a prophet, that he indeed did see God the Father and His Beloved Son, that The Church of Jesus Christ of Latter-day Saints has been restored to earth with a fulness of doctrine that does not exist anywhere else.

Establish your life on that foundation. Use the best techniques you can as you evaluate through engineering and technology. Combine that with what you get from the religious studies you have here, and you will be secure in a world that is ever more difficult to live in, because Jesus Christ lives.

If you forget all the things I have tried to share today, I hope you will remember an individual—who is not very significant in and of himself but who has a mantle that the Lord respects—said, with the full meaning of the verb *know*: I know that Jesus Christ is a resurrected being. I know He guides His Church. I know He loves you, and I know He will guide your life as you qualify through faith and obedience. In the name of Jesus Christ, amen.

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