Some Key Ingredients for Finding and Understanding the Truth in Science and Religion

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Alvin K. Benson

In the scriptures, intelligence is equated with light and truth (D&C 93:36), and truth is said to be the "knowledge of things as they are, and as they were, and as they are to come" (v. 24). Jesus said, "I am the way, the truth, and the life" (John 14:6), and elsewhere we read that "truth abideth and hath no end" (D&C 88:66). The Lord has also counseled us to learn of "all things that pertain unto the kingdom of God, that are expedient for [us] to understand; Of things both in heaven and in the earth, and under the earth; things which have been, things which are, things which must shortly come to pass [the definition of truth] . . ." (vv. 78-79). Yet he has cautioned us not to seek knowledge only for the sake of knowing, but to put knowledge in its true perspective and to remember "to be learned is good if [we] hearken unto the counsels of God" (2 Nephi 9:29).

How then do we find the truth? There are a variety of ways, such as the following:

(1) We can use independent reasoning, which is based upon our learning, experiences, environment, etc. In this area, we rely upon the natural senses of sight, hearing, touch, taste, and smell. However, there are physical phenomena which lie outside the limits of these five sensory channels. For example, we human beings cannot detect sound waves below 20 cycles per second or above 20,000 cycles per second. Likewise, our visual systems detect electromagnetic wave forms only between 380 and 680 milli-microns. Consequently, our genetically given neurological limitations allow us to perceive only a portion of continuous physical phenomena.

We must be very careful here, or we can be led down a road of deception. For example, one line of thinking has been to assume that the universe is wound up like a clock, and it therefore must run its course based upon Newton's very predictable laws of motion. Consequently, all that one does is predetermined at the beginning by the clockmaker, and one cannot hope to ever change the future. In this system there is no good, no evil, and no free will. But this philosophy is contradicted by the prophet Lehi's revelation on the law of opposition (2 Nephi 2:11-16; note also vv. 26-29). As pointed out in this revelation, independent reasoning is an essential ingredient in the learning process, but it should be guided by the Light of Christ and/or the Holy Ghost.

(2) We learn from the experiences and ideas of others, those who have earnestly sought the truth and discovered goodly amounts. In science, for example, Isaac Newton developed the binomial theorem, the elements of differential and integral calculus, the preliminary theory of color, the theory of construction of the first reflecting telescope, the concept of the dispersion of and the theory of light, the laws of motion and the foundation of classical mechanics, and the law of universal gravitation. Students can gain great insight from reading his papers and works on these topics and from recognizing his humility about his accomplishments as reflected in his famous statement:

> I do not know what I may appear to the world; but to myself I seem to have been only a like boy playing on the seashore, and diverting myself in now and then finding a smoother pebble or a prettier shell than ordinary, whilst the great ocean of truth lay all undiscovered before me (Eves 40).

Some other examples to learn scientific principles from are Louis Pasteur, Michael Faraday, James C. Maxwell, and Albert Einstein. They are "giants" in science.

Likewise, in the scriptures, we find examples to learn spiritual truth from, such as Joseph of old, Abraham, Moses, Isaiah, John, Paul, Nephi and Joseph Smith. For example, Joseph of old teaches us some valuable lessons in rising above the circumstances, keeping close to God, and avoiding depression and low spirits (see Gen. 39-41; 45; 50). These principles are applicable in pursuing truth in any realm. Indeed, in 1 Nephi 5:21 and Jacob 4:3, we are counseled to preserve records that we may learn and profit from the lives of others.

(3) We gain physical knowledge from inspiration, intuition, hunches, spurts of insight, etc. This is a form of revelation (*Teachings of the Prophet Joseph Smith* 151; hereafter *TPJS*), and some of this wisdom comes from God to benefit his children (see Joel 2:28-30). As noted above, this is one of the primary reasons why the scriptures have been recorded, "for the learning and the profit of my children" (2 Nephi 4:15).

Einstein was often inspired by God. One of his famous quotes states, "God is sophisticated, but He is not malicious" (from an inscription in Fine Hall, Princeton University; Cline 74), or as he paraphrased it himself, "Nature conceals her mystery by means of essential grandeur, not by her cunning" (Weidner). The inspiration he received, coupled with his insight and intuition about nature, led him to uncover the general foundations of statistical mechanics, the special theory of relativity, mass-energy equivalence, the photon theory of light, the quantum theory of specific heats and of the emission and absorption of light by matter, and the general theory of relativity.

(4) The most direct way we discover truth is by revelation from God. As recorded in 2 Nephi 32:5, when we "receive the Holy Ghost, it will show unto [us] all things what [we] should do." Similar statements are found in Moses 6:61 and Doctrine and Covenants 121:26-29. However, revelation comes from obeying God's laws, principles, and ordinances which lead to the companionship of the Holy Ghost, who can show us all things and guide us to understand the "deep things of God" (1 Cor. 2:10). Nephi provides some key insights into how we can prepare ourselves to be able to receive revelation:

> I know that if ye shall follow the Son, with full purpose of heart, acting no hypocrisy and no deception before God, but with real intent, repenting of your sins, witnessing unto the Father that ye are willing to take upon you the name of Christ, by baptism . . . , then shall ye receive the Holy Ghost . . . and then can ye speak with the tongue of angels (2 Nephi 31:13).

If we follow this course, God will give us what we ask for, "if [we] ask not amiss" (4:35). "Wherefore, ye must press forward with a steadfastness in Christ, having a perfect brightness of hope, and a love of God and of all men. Wherefore, if ye shall press forward, feasting upon the word of Christ, and endure to the end, . . . Ye shall have eternal life" (2 Nephi 31:20; see also Alma 12:9-10 ; D&C 63:23). The scriptures clearly tell us that we must develop our spiritual senses so that we can receive communication from God, and the only way to know the ultimate truth of any principle is to ask him.

These methods of finding the truth are applicable both in science and religion. Remembering the caution given in 2 Nephi 9:29, "to be learned is good if they hearken unto the counsels of God," we read in the Doctrine and Covenants 45:57, "they that are wise and have received the truth, . . . have taken the Holy Spirit for their guide."

Laws of God—Temporal and Spiritual

As evidenced by ancient and modern scripture, God is the source of all truth, and he is a God of law, order and invariance (see Deut. 32:4; John 16:13; 17:17; 2 Nephi 2:5; 27:23; 29:9; and D&C 88:36, 41, 42). Scientists seek to describe and understand laws and principles in the temporal realm, the typical area of experience for mortal man.

The temporal realm of study is generally divided up into five definite areas of investigation based on man's frame of reference. A reasonable breakdown might be (a) astronomical studies (10^{9}—10^{28} meters), (b) studies of the everyday world (10^{8} m—1 mm), (c) biological studies (.1 mm—10^{-6} m), (d) chemical, or atomic studies (10^{-7}m—10^{-13}m) and (e) studies in nuclear phenomena (10^{-14}m—10^{-18} m). Thus, concerns of scientists include planetary motion, the "life" of a star, the earth's interior, genetic coding, interactions between particles, basic building blocks of matter, etc. It is interesting to note that from D&C 88:47 we could infer that all the basic physical systems of the universe, although having different scale factors, are essentially alike in structure. This would seem to apply to the universe, the solar system, the cell, the atom, the nucleus, etc.

Observations about such temporal phenomena are made with the physical senses and the mind. These are experimentally confirmed by reading dials on a variety of instruments, or the printouts from a computer. Science is an orderly arrangement of these observed facts. Hypotheses and laws are formulated to make these empirical facts more meaningful.

The primary aim of science is to gain insights into the causes and laws governing natural processes, with applications typically coming as spin-offs of this goal. God has developed the order in the universe with extreme care and wisdom (Abr. 4:11-12, 18, 26; 5:3). Great scientists guided by the Light of Christ have discovered some of the laws and principles of this

order, and others have wisely applied this knowledge. For example, induction coils in cars come from Faraday's laws of electromagnetic induction; developments in communications with electromagnetic waves from Maxwell's laws; nuclear power from laws found by the Curies, Rutherford, and Fermi; computers from physicists dealing with counting nuclear particles; transistors from the quantum theory of solids; and the electronic industry from the discoveries of Thomson and Lorentz.

Of course, these applications can be used for good or evil. Remember that medical science has almost doubled the average life span of man, has eliminated many diseases, and has abolished pain in many forms, but accompanying problems have included modern weapons and warfare, air pollution, water pollution, congested transportation, energy shortages. Some of these problems require social and political help. We are driven by two strong human motives: (1) the desire to improve living conditions and serve others and (2) the drive for power and influence over other people. This crosses from the scientific realm to the religious, or moral realm, and the motives are described well in Doctrine and Covenants 121:34-46.

Spiritual laws are interwoven with the principles of faith, prayer, repentance, covenants, revelation, service, forgiveness, and in general, good moral behavior. The process of gaining knowledge through faith in Jesus Christ is detailed in Alma 32. Many of the steps discussed therein are very similar to the steps employed by a scientist in developing knowledge and insight about nature: humility (v. 16), desire (v. 27), experiment (vv. 28, 36), nourishment through works including study, prayer and pondering (vv. 41-42), patience and diligence (v. 43), and interpretation and perfect knowledge (v. 35). Many of these steps and principles are pointed out also in 2 Nephi 31:20 and 32:1, 8-9.

The previous steps are analogous to the scientific method. For example, in elementary particle research, data is acquired (desire and experimentation), processed (nourished), and

interpreted (pondered and analyzed) in order to determine the basic building blocks or particles of matter. Such experiments will be conducted in the proposed Superconducting Super Collider. Two beams of protons will be sent racing in opposite directions around a 52 mile-long tunnel loop, and the resulting head-on collisions will be analyzed (pondered) to learn if matter is made up of smaller building blocks than the quarks and leptons identified so far and to learn more about the forces that act between them. Out of the laws governing these basic building blocks is fashioned all the richness we see in nature. This work is aimed at answering some of science's most profound questions.

Similarly, exploration geophysics research deals with "photographing" the earth's interior through the fundamental steps of data acquisition, data processing, and interpretation. These steps can be carried out for a variety of different probing devices—seismic, gravitational, magnetic, electrical, radioactive. In each case, an appropriate instrument is set up and signals from inside the earth are recorded, analyzed, and interpreted. The process is in many ways similar to an individual calibrating and attuning his spiritual senses by experimenting with spiritual laws and principles in order to receive the whisperings (signals) of the Holy Ghost (2 Nephi 32:5). However, these results are measured and interpreted by their effects on people instead of on inanimate instruments (25:4; 32:9; 33:1, 4).

As described in Doctrine and Covenants 88:12-13 and as noted by many latter-day prophets, scientific discoveries and achievements come from God, the source of all truth. This seems very apparent when the developments in communication and transportation technology, for example, are traced parallel to the growth of God's kingdom. Around the time the Church of Jesus Christ of Latter-day Saints was organized in 1830, Joseph Henry and Michael Faraday discovered that a changing magnetic field produces an electrical current, the foundation for long distance

telegraph and telephone communication. During the next few decades, numerous discoveries and inventions rapidly came forth. In the 1890s Guglielmo Marconi developed wireless telegraphy, and other inventors soon added the vacuum tube, amplifier, and audion tube, so that by 1921 wireless telephony, the voice of radio, was born. The automobile and airplane were also developed in the early 1900s. Our Heavenly Father was providing the means for the gospel of Jesus Christ to be taken to all the world (D&C 84:62). This was further enhanced with Philo T. Farnsworth's development of television in 1927 and the use of satellites to beam television broadcasts all over the world in the 1960s. As we prepare ourselves to receive revelation, God will do his part to optimize the conditions to enable all of his children to rise to their maximum potential (D&C 104:17; *TPJS* 250-251), and in doing so, science is blossoming like never before.

It is also recognized by a majority of the great scientists that there is a God and that he is the source of truth. As Albert Einstein said, "The harmony of natural law reveals an intelligence of such superiority that compared with it all the systematic thinking and acting of human beings is an utterly insignificant reflection" ("Search for Truth" 7). Similarly, the great space scientist Wernher von Braun has written,

> Anything as well ordered
> and perfectly created as is our earth
> and universe must have a Maker,
> a Master Designer.
> Anything so orderly, so perfect,
> so precisely balanced, so majestic as
> this creation can only be
> the product of a Divine Idea. . . .
> "There must be a Maker; there can
> be no other way" ("Creation" 21).

Many others have said similar things and recognize at least to some degree the role of a supreme being in scientific discovery and development.

Our Heavenly Father has pointed out that temporal and spiritual laws are all spiritual to him (D&C 29:34-35). These are the "tools" he uses to govern the universe. When totally understood, they contain the truth, but we apply them differently according to our experience and knowledge. As our scale of observation changes and our level of understanding expands and progresses in a step-by-step process (2 Nephi 31, 32; D&C 93; 98:12; *History of the Church* 6:306-07; hereafter *HC*), we can learn to comprehend the spiritual aspect of each of the laws of God, and how they interrelate and operate. In this regard, we should note again the process and importance of integrating the basic principles of the gospel into our lives as described in 2 Nephi 31:13, 20 and 32:3, 5, 7, 8-9. Certainly, the answers to many, many very important questions are yet beyond our experience and understanding, such as God's movement through space (D&C 88:51-62), his communication system (Moses 1:27-28; Job 28:24; Mosiah 24:12; D&C 88:109), and the resurrection process (see Isaiah 55:8-9; Mosiah 4:9; *HC 6:50)*.

As progress continues, scientific development and education must include active involvement in research—probing the stars and planets, the earth, the cell, the atom, the nucleus. Students can only truly absorb the spirit of science if they face unsolved problems, participate in the process of analyzing data and facts, sift evidence, and create and test new approaches and ideas. But in addition to the five physical realms mentioned above, students should experiment with spiritual laws, as discussed in 2 Nephi 31 and 32. This will lead to a testimony that God is our Father and Jesus is the Son of God, which in turn will lead to confidence in their words—the scriptures. As recorded in 2 Nephi 32:5, the words of Christ will tell "you all things what ye should do." By pondering his words, we prepare ourselves for the whisperings and inspiration of the Holy Ghost (2 Nephi

32:1, 8). Then we will not ask amiss, and God will consecrate our endeavors for the welfare of our soul and those of others also (2 Nephi 32:9; 33:4). What tremendous keys, what great, eternal principles, for finding and applying the truth in any realm!

With confidence in the scriptures, one can find therein divine insight into the nature of the universe. For example, valuable insight into the reckoning of time, the organization of our universe, and the earth's relative position in the universe can be found by careful study of Facsimile No. 2 and the accompanying explanation in the book of Abraham. Doctrine and Covenants 84, 88, and 93 contain some wonderful descriptions and implications about light and its fundamental importance to the organization of all things, animate and inanimate. Great truths about the temporal and spiritual realms are revealed in 88:7, 13, 37, 41, 42, 47. This section gives strong indication that light may be the fundamental link between the temporal and the spiritual worlds. Implications associated with the theory of relativity can be found in Doctrine and Covenants 3:2; 84:100; 88:41, 110; 130:7, and about quantum mechanical theory in Doctrine and Covenants 88:13, 49. The law of conservation of mass and energy is implied in 131:7-8.

The interested reader should also study some of the discussions in *Science and Mormonism* by M. A. Cook and M.G. Cook and in *Everlasting Burnings* by M.G. Cook. The extreme care and wisdom God used to organize the universe and some of the essential components for that organization are revealed in Genesis 1-2, Moses 2-3, and Abraham 4-5. As more and more evidence pours in from research in the biological realm, the Word of Wisdom (D&C 89) stands steadfast as a proven law of health.

Thus, the scriptures can be of great value in helping us with scientific questions and pursuits, and the existing revelations of God *plus* the findings of science can give us an approximation of reality—how things really are. As noted earlier, many questions are still beyond our present level of experience and

understanding, and we will have to wait until some future time for the details.

The Future—Incentives to Live By

As related by Elder James E. Faust at the Brazil Area Conference 2 March 1975, "Life is not easy. It is not intended to be easy. It is necessary for us much of the time to swim upstream. . . . But the gospel . . . contains the answers to all of life's problems" (68).

As we "swim upstream" and grow and progress step by step, knowledge of the truth is essential (see *TPJS* 51; D&C 93:36; 130:18-19; Alma 12:9-10). We must learn and apply true laws and principles in all of our pursuits. For those who accept the fulness of the gospel of Jesus Christ and take the Holy Ghost for their guide (2 Nephi 32:5; John 16:13; D&C 45:57), the Lord will eventually reveal all things about the earth and science (D&C 101:32-34; 2 Nephi 27:10, 11, 22). And yet, the Lord has revealed that *only* those who become *exalted* in the Celestial Kingdom will know all things and have *all truth* (see D&C 93:26-28; 88:67; 76:5-10; 121:28-31). What a great, great promise and what a tremendous incentive to "press forward with a steadfastness in Christ" (2 Nephi 31:20).

Conclusion

As can be seen from the scriptures cited above, there are some key principles in 2 Nephi which can help us unlock the doors to truth in science and religion which should be blended in our lives:

1. Study and ponder the scriptures (32:1, 3).
2. Live the laws of God described in the scriptures consistently throughout our lives (31:13, 20).

3. Do (1) and (2), which will lead us to know God, to know that Jesus is the Christ, and to know the whisperings and companionship of the Holy Ghost (32:5).
4. Let the Holy Ghost help guide us to the truth of all things that our experience and understanding will allow (2 Nephi 32:5, 9; 33:1). Whenever there is a conflict between the scriptures and the facts gained through our natural senses, we should seek confirmation of the truth by revelation from the Holy Ghost. The Holy Ghost can magnify our abilities and give us wisdom beyond our natural understandings.

These four principles are eternal, and constitute the same formula to find truth that Jesus described in the Sermon on the Mount (Matthew 5-7; also in 3 Nephi 12-14).

As a scientist, I look at science as a tool to serve and benefit God's children and to increase my faith in and understanding of God, the source of all truth. The scriptures plus the exploding knowledge of science spur me on to seek more truth and to find the associated inner peace, joy, and happiness promised in Doctrine and Covenants 42:61. Ultimately, the approximation of reality mentioned above will converge to the exact answer for those prepared.

In these pursuits we must remember Nephi's wise counsel, that "to be learned is good if [we] hearken unto the counsels of God" (2 Nephi 9:29), because the ultimate purpose of all truth both in science and in religion is to achieve our Maker's goal: "For behold, this is my work and my glory—to bring to pass the immortality and eternal life of man" (Moses 1:39). Therefore, in pursuing truth in all things, our goal should be to become exalted beings, to mature to the status of our Heavenly Father (D&C 76:58-62), where the past, present, and future—all truth—is continually before us (D&C 130:7; Moses 6:61).

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