

Inertia, Entropy, and Good Cheer

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Brothers and sisters, though I consider it a great privilege to speak to you today, perhaps I have never been so much aware of my personal inadequacy to deliver something of value to you without the help of the Lord. I only hope that together we can accomplish the purposes of a devotional assembly at BYU. To borrow a scriptural reference from my friend Andrew Skinner, which sums up my feelings since being asked a few weeks ago to participate, the prophet Ezra said, “And when I heard this thing, I rent my garment and my mantle, and plucked off the hair of my head and of my beard, and sat down astonished” (Ezra 9:3). I seek your silent and sincere prayers that in spite of my astonishment, and perhaps yours, we may communicate by the Spirit.

After some struggle, and knowing somewhat of the anxiety and fears that accompany the convergence of crucial decisions in young lives, I have felt I should focus on aspects of our inherent ability to feel the Spirit and to be comforted and guided and encouraged. My wife and I met in a BYU ward a few years ago. When we contemplated our future family, we thought about naming our first three daughters Faith, Hope, and Charity. Instead, we named them Inertia, Entropy, and Good Cheer. They

have since asked to have their names changed. Actually, we have five sons and only two daughters, named Megan and Rosalie. But I would like to relate the focus of my remarks to inertia, entropy, and good cheer.

The gospel encompasses all truth. Even if you have math phobia or science anxiety, I think that we can have some fun discussing two physical properties, inertia and entropy. Inertia and entropy are properties of matter that have some analogous meaning in our lives on this earth. All of us daily experience the effects or the influence of these properties. Let me describe how these properties relate to us and how I think we can best respond to their effects on us. The responses to each of the two become the basis for two keys in developing and maintaining what the Lord calls “good cheer.” The operation of these keys leads to a third key reason for us to “be of good cheer.”

Inertia

Inertia is that tendency of matter, if at rest, to remain at rest, or, if moving, to continue

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moving in the same direction unless acted upon by some external force. Thus, when young David pitted his sling against the Philistine giant, the armored Goliath of Gath, we can identify the effects of inertia in this interesting episode. David propelled a smooth stone toward the great Goliath by using a sling. The inertia of the small high-velocity stone created a force that embedded the stone in Goliath's forehead. I like President Hugh B. Brown's characterization of the result: "Nothing like that had ever entered his head before" (*The Abundant Life* [Salt Lake City: Bookcraft, 1965], p. 342). The inertia of Goliath's large head and body limited the response to just enough movement to push him off balance, and he fell.

Some of you may remember an outstanding football play that helped preserve BYU's undefeated record during the 1984 national championship season. Hawaii was at the goal line very late in the game. BYU led by less than a touchdown. If Hawaii were to score a touchdown, BYU probably would lose the game. Anticipating the snap count perfectly, Kyle Morrell leaped over both the defensive and offensive lines and landed on the Hawaii quarterback for a loss of yards. BYU held and hung on to win the game. To what do we attribute the success of the play? Well, to good timing and, yes, inertia.

Any mass, whether stationary or moving, possesses inertia. It is good to be steadfast and immovable if it is a matter of correct principle; it is good to be moving along the path if the metaphor relates our life's journey to the straight and narrow way. If our inertia prevents us from making a course correction, it may mean that we are stubborn. If we possess inertia that keeps us moving and carries us past temptation, it may mean that we have developed constructive habits and discipline. In any case, a force or effort is required for us to start moving if we are stalled or stagnant, or to change directions if we have strayed from the right path, or to continue moving ahead in

the right way against the resistance referred to by Lehi when he said, "It must needs be, that there is an opposition in all things" (2 Nephi 2:11). The process of dealing with our inertia often involves overcoming weaknesses, which the Lord indicated are customized resistances that he will assist us to overcome (see Ether 12:27). Inertia can be our enemy or our friend.

The people of Nephi lived for nearly 200 years in peace and harmony following the several days' visit of the resurrected Savior. You might say they were provided with significant inertia as they were propelled toward a Zion society by the profound teachings and ministering of Jesus Christ. Twelve disciples were ordained to help regulate and direct the affairs of the new church. As the people listened to the twelve, they preserved peace and prosperity. In time, against the obstacles and resistances of life, they stopped listening and lost their way. The proper movement of that marvelous society, caused by the initial and continuing inertia provided by the Lord and his disciples, was ultimately overcome by the external forces of pride and selfishness.

What can we do to take the best advantage of the property of inertia in our lives? Because our spiritual movement is affected by our inertia, it is important to continue moving, and in the right direction. I would suggest that we learn from the ancient Nephite Zion that the best way to ensure that we make inertia our friend is simply to follow the Brethren. Following with high fidelity the latter-day prophets, seers, and revelators will assure our continuous movement along proper paths at appropriate velocities (see D&C 1:38, 6:9, 21:5, 52:9, 58:18, 84:36).

Entropy

Several interesting concepts can be described with the relatively recently discovered property of entropy and related ideas. The general statement of the principle of increase in entropy may be stated: "Every system left to

itself will, on the average, change toward a condition of maximum probability; or, every system left to itself will, on the average, change toward a condition of maximum disorder.” Thus, faculty offices tend toward the disorganized; perhaps some college students’ apartments tend toward the unbelievable; and most certainly my kids’ bedrooms tend toward chaos. The mystery of missing socks that produce countless wardrobe dilemmas is partially explained, I think, by this principle.

The trend in nature from order to disorder has been reversed only once in recorded history:

In the beginning God created the heaven and the earth.

And the earth was without form, and void; and darkness was upon the face of the deep. And the Spirit of God moved upon the face of the waters.

And God said, Let there be light: and there was light. [Genesis 1:1–3]

Order was created from chaos. The energy potential available to man on the earth was like some giant watch spring wound tight. After Father Adam and Mother Eve were expelled from the garden, the principle of increase in entropy has been in operation ever since—the watch spring has been gradually unwinding through history. Entropy is a measure of how rapidly the watch spring unwinds.

This principle applies to all of us all of the time. We are all familiar with the corollary “Work expands so as to fill the time available for its completion.” However, we deliberately work to decrease entropy in our environment. For example, criminal and civil laws are commands to decrease rather than increase entropy (thou shalt not kill, arson, etc.). (It is interesting to contemplate that if the entropy of crimes against society could be quantified, the severity of punishment could be in proportion to the entropy increase for that action.) The Lord counseled, “Organize yourselves; prepare every needful thing; and establish . . . a house

of order” (D&C 88:119). However, it would not be consistent with our knowledge of the plan of salvation to continually decrease entropy locally. Going too far could result in behavior that is rigidly specified—the individual must have freedom to obey or reject as one sees fit. Our agency is inextricably related to the operation of the principle of increase in entropy. In this analogy, sin tends to increase entropy. The application of intelligence can reduce entropy locally, but there is always an accompanying larger increase in the entropy of our “universe.” Therefore, all processes in which we engage are irreversible. That is, we cannot return to where we were without some permanent change in our surroundings, except for one crucial and highly significant exception. Let me illustrate.

When a pot of water is placed on the stove to boil, the water undergoes a process. First it heats up. The temperature increases to the boiling temperature, then the water continues to receive heat from the burner at the boiling temperature until it changes from liquid to vapor. The vapor then escapes to the surroundings. In the process of boiling, the water follows a prescribed path, which is a series of very small changes from one state to the next. It follows the same path every time. If one were to ascribe the characteristic of agency to the water, it might even be said that the water is perfectly obedient in precisely following the path as it successfully undergoes the process of boiling. It responds without error to the external influence of heat transferred to it through the pot.

The process of boiling water is an irreversible process since it is impossible for the water vapor to return to liquid water with no change in the surroundings. When steam condenses to form liquid water, the heat released by the steam goes into the surroundings at a low temperature rather than back into the burner on the stove at a high temperature. The ideal is a reversible process, where the effects of a process can be reversed without any change to the

surroundings and there is no net increase in entropy. Such processes do not exist in our world. However, based on the principles that I have been talking about, there is an exception that produces a reversible process in the lives of Heavenly Father’s children that I will describe now.

Unlike water brought to boil, which without deviation follows the prescribed path, we could, in our progression, stray from the narrow way because of the inertia of our own weakness or ignorance. Should this happen, we can experience a miraculous reversal of our actions without any eternal effect as we continue the process of growth and change. The Lord has provided, through his atonement on conditions of repentance, for the only known reversible process—that of forgiveness for sins. If we truly repent, then we can return to the straight way through a change in our heart. We, as Paul said, “Put off . . . the old” and “put on the new” (see Ephesians 4:22–24). Such a process is reversible in the sense that the Lord, representing our secure surroundings, says of those who repent of their sins, “The same is forgiven, and I, the Lord, remember them no more” (D&C 58:42).

That repentance is the best way to respond to the principle of increase of entropy in our lives is probably obvious. As we are invited to come unto Christ, we are given a specific path to take in a lifelong process. It is a process of growth that will result, ultimately, in perfection. Jesus said, “Strait is the gate, and narrow is the way, which leadeth unto life” (3 Nephi 14:14). Repentance and forgiveness—this is a participatory process, and one of the participants has a perfect memory. He can choose what to remember and what to discard. Through repentance we can actually undergo a reversible process—something that is only a concept in the minds of men pertaining to physical processes. When we utilize our inertia to move toward Christ, to come unto Christ, we “put on the new,” and our old selves, and

our old ways, become obsolete to, and forgotten by, the Lord.

Good Cheer

In our lives we use idiomatic or pet phrases in a variety of situations that enable us to communicate enormous amounts of information in an economical way. In a sort of leverage of language, phrases like “hang in there,” “lighten up” or “go for it” connote meaning far beyond the few words expressed. The scriptures also contain such phrases—for example, “endure to the end,” “verily, verily, I say unto you,” and “it came to pass.” One phrase, however, which seems to be particularly useful to the Lord and from which we might gain some insight into the Lord’s personality, is the frequently used counsel “Be of good cheer.” The scriptures record the Lord speaking these words in a wide variety of situations to encourage, to comfort, to lift, to inspire, to convey compassion, to build hope, to validate faith, and to teach perspective. It lifts my spirit to imagine those various situations.

My wife has heard me talk about this so often during the past couple of weeks that the other night she lost it. She asked me, “What do you call a herd of smiling cows?” Begging the answer, she said, “Beef of good cheer.”

Once three good friends went into a malt shop across from a train station while they waited for the train. Ordering their favorite shakes, they continued an animated and enthusiastic visit. Before long they noticed that the train was pulling away from the station. In a panic they leaped from the table and all began to chase the accelerating train down the tracks. With a goal in mind, the first man reached the caboose and grabbed the rail. Turning and stretching, he grabbed the next fastest friend. With excitement and urgency they both formed a human chain to try to reach their friend with the shortest legs, who was sprinting with all his might to catch up with the train that by now had picked up serious speed. One last

lunge just missed their outstretched reach, and he fell in a heap on the tracks as the train and his friends disappeared from view. The station attendant who witnessed the entire sequence from the station platform approached and was surprised to find the short-legged man sitting between the rails, shaking with laughter. When asked what was so funny about missing the train and being separated from the two other men, he replied, "They came down to see me off." One lesson from this story is that enthusiasm is contagious. So, I think, is good cheer.

The good cheer so often spoken of by the Lord probably refers to an attitude—a mixture of faith, hope, and charity, and most certainly a state or condition that is part of the process of coming unto Christ. It is not naive optimism or superficial cheeriness but true good cheer born of faith, or belief, or even a desire to believe. The ability to be of good cheer, in the Lord's sense, is perfection—independent; that is, it is not a state reserved only for prophets and babies. It is also situation independent; that is, whether we characterize our lives at the moment as "smooth sailing" or as being in "choppy seas" or trying to navigate the "Bermuda Triangle," we can be of good cheer. Being of good cheer means never losing hope.

The apostle John said, "We love him, because he first loved us" (1 John 4:19). Might that be safely extrapolated to "We come unto him because he first came unto us"?

Nephi, the great-great-grand son of Alma the Younger, cried mightily unto the Lord for the people who believed Samuel the Lamanite's prophecies that Christ would come in five years. They "did watch steadfastly for that day and that night and that day which should be as one day" that would mark the first coming of Christ. The record states, "There was a day set apart by the unbelievers, that all those who believed in those traditions should be put to death except the sign should come to pass, which had been given by Samuel the prophet" (3 Nephi 1:8–9). Amazingly, the unbelievers, ignorant and

impatient, ignored the increasingly frequent signs and miracles wrought among the people and apparently calendared "destruction day" on a date that was already taken—that day prophesied by Samuel nearly five years before. Nephi, with his heart exceedingly sorrowful, with the first "great and dreadful" day of the Lord at hand, after a full day of intense supplication, heard the voice of the Lord come unto him, "Lift up your head and be of good cheer; for behold, the time is at hand, . . . on the morrow come I into the world. . . . Behold, I come unto my own" (3 Nephi 1:13–14).

This, I think, is the third great key, or reason, for us to be of good cheer. The Lord has come unto us! He invites us to come unto him. In so doing, he does not distance himself but maintains a close proximity. He is ever watchful and knowing, encouraging and kind. Consider some other scriptural samples of the Lord's sweet support.

During his second Galilean ministry, when Jesus came into Capernaum on the shore of Galilee after some time away, many gathered to hear him preach. Four men came carrying a paralytic, and, when they could not gain access to Jesus through the large crowd, with a resourcefulness born of faith and hope, they climbed up and lowered the sick man through the roof above Jesus. Christ saw their faith and said unto the sick of the palsy, "Son, be of good cheer; thy sins be forgiven thee. . . . Arise, take up thy bed, and go unto thine house" (see Matthew 9:2–6 and Mark 2:1–11).

In the same phase of his ministry, after the disciples participated with Jesus in the miraculous feeding of more than five thousand, Jesus constrained his disciples to get into a ship and to go before him to the west side of the Sea of Galilee. Like us, they were on his errand. Like us sometimes, geographically they didn't have very far to go. Left to their own strength against the contrary winds, they toiled against the sea for several hours attempting to cover the few miles to their destination. Exhausted

from the struggle at their oars, they were almost certainly also deeply discouraged and frightened as the ship stalled against the waves in the midst of the sea. Jesus came unto them while they were doing what he asked, walking on the water as he approached the troubled ship. Sensing their fear, Jesus calmed them by saying, “Be of good cheer; it is I; be not afraid” (Matthew 14:27).

I have been especially touched by his patience with Peter when he bid him to come unto him upon the water. When Peter was focused on Christ, he actually defied a little gravity. Distracted by the swirling storm, he began to sink and became desperate for help. I wonder if the experience of being lifted by grasping the Lord’s outstretched hand was so deeply impressed upon his mind and soul that it prompted the great faith necessary during his own ministry, several years later, to lift the lame man by the hand at the Beautiful Gate of the temple, when he, fastening his eyes upon him, said, “Silver and gold have I none; but such as I have give I thee: In the name of Jesus Christ of Nazareth rise up and walk” (Acts 3:6).

In Jerusalem, during the last week of his mortal life, at the tender and intense occasion of the Last Supper, Jesus very plainly reminded his disciples of his impending death and resurrection. They would soon be without his personal companionship and would be scattered, but he would send to them the Holy Ghost. With compassion he comforted and consoled their troubled hearts:

The Father himself loveth you, because ye have loved me, and have believed that I came out from God. . . .

These things I have spoken unto you, that in me ye might have peace. In the world ye shall have tribulation: but be of good cheer; I have overcome the world. [John 16:27, 33]

President Benson has said:

Nothing is going to startle us more when we pass through the veil to the other side than to realize how well we know our Father and how familiar His face is to us. . . .

*God loves us, he’s watching us, he wants us to succeed. [Ezra Taft Benson, “Jesus Christ—Gifts and Expectations,” *Speeches of the Year, 1974* (Provo: Brigham Young University Press, 1975), p. 313; also, Christmas Devotional, Salt Lake City, Utah, 7 December 1986]*

Whether in illness, or feeling uncertainty for the future or fear or deep concern for our families or others, the Lord listens and knows and responds—the Lord is generous with his spirit.

I know this much better in retrospect. When I was a boy my mother and father were disenchanted with the traditional religion of their ancestors. Our family attended a church that was doctrinally unstructured and open. After my father died my mother stuck with it for a few more years, long enough for me to graduate from sixth-grade Sunday School. Though I participated in no organized religion from then on, I remember several occasions feeling quite confident that “things would work out” with no apparent basis for my inner assurance. I felt guided where to attend school and what major to pursue. That choice led to other momentous ones. I joined The Church of Jesus Christ of Latter-day Saints near the end of my first year of graduate school in Indiana. My master’s thesis advisor baptized me. I first became acquainted with him in a freshman chemistry laboratory, where I was excited to learn that he was involved in auto racing. We became fast friends, and his family became my family away from home. Little did I know that they were expert examples of President McKay’s description “every member a missionary.”

We started a racing club at the school, and I helped build various racing cars with this man. During my undergraduate years we drove long

distances to professional drag races around the country, where he worked as an official and I helped on the crew. Interspersed with discussions during those many hours about racing, cars, and horsepower, I was introduced to his intriguing philosophy of who we were, where we came from, and where we were going. Did I want to know more? Absolutely! The plan of salvation “rang true,” and I began to appreciate the source of the good cheer I had felt growing up. Our conversations evolved to lengthy gospel discussions that gave me much to think about. The missionaries were somewhat taken aback when I answered “the LDS Church” to their question “Mr. Brown, what church do you know most about?” It was obviously a big decision to join the Church, but no bigger to me then than are some of the key decisions facing you now. I think the ability to be, in some small way, of good cheer helped me to think more clearly and to use my agency without error.

Before I was baptized I had decided to pursue a doctoral degree in mechanical engineering. One of my professors had just completed his Ph.D. at Stanford and told me of exciting work in my area of interest. I applied and was accepted to begin a Ph.D. program at Stanford the next fall. After my baptism I was interviewed by my bishop on several occasions. During one visit we talked about my plans. As I remember, I didn’t hesitate to change them when he counseled me to attend BYU, where I could meet my wife. So I did change my plans, and I did meet my wife. I’ve gained great comfort from my personal knowledge that the Lord has prompted and continues to prompt leaders and friends to influence my life at crucial and important times.

I bear testimony that the Lord knows each of you. We are numbered and nourished to keep us in the right way (see Moroni 6:4). This has been evidenced to me again and again in my teaching experience at BYU. In religion classes that I have had the privilege of teaching from time to time, I have usually given a series

of assignments called “achievements.”

Depending on the particular achievement, students are required to teach a gospel principle to someone else or to improve their private religious lives in some way and then to write an account of their experience and what they learned. One achievement was based on Alma 32 and involved not procrastinating acting on a prompting. In pondering the assignment, one student was prompted to visit a friend she hadn’t seen in almost a year. She was tempted to ignore the prompting but decided to not procrastinate acting upon it. When she went to her friend’s house, she found her alone in a seriously ill and deteriorating condition. Emergency hospitalization was necessary, which led to the recovery of the friend. The Lord himself said, “For behold I know my sheep, and they are numbered” (3 Nephi 18:31).

A recent visit with one of our stake patriarchs gave me another reminder. His testimony from giving many patriarchal blessings to young people in our stake is that the Lord’s love for the youth is overwhelming. That we each can obtain the Lord’s mind and will in the form of personal scripture at the hands of an ordained patriarch is a tremendous manifestation of his love for us. I can imagine the Lord impressing the words *be of good cheer* onto your mind as you read and ponder your patriarchal blessing.

Though my daughter attends BYU, I am not so ancient that I cannot remember the kinds of struggles and hopes that you have as college students. It is dangerous to compare ourselves with others, but perhaps we are safe in considering one of the featured creatures in Dr. Seuss’ profound book *Did I Ever Tell You How Lucky You Are?*

*When I was quite young
and quite small for my size,
I met an old man in the Desert of Drize.
And he sang me a song I will never forget.
At least, well, I haven’t forgotten it yet.*

*He sat in a terribly prickly place.
But he sang with a sunny sweet smile on his face:
When you think things are bad,
when you feel sour and blue,
when you start to get mad . . .
you should do what I do!*

*Just tell yourself, Duckie,
you're really quite lucky!
Some people are much more . . .
oh, ever so much more . . .
oh, muchly much-much more
unlucky than you! . . .*

*. . . consider the Schlottz,
the Crumple-horn, Web-footed, Green-bearded
Schlottz,
whose tail is entailed with un-solvable knots.*

*If he isn't muchly
more worse off than you,
I'll eat my umbrella.
That's just what I'll do.*

[Dr. Seuss, *Did I Ever Tell You How Lucky You Are?* (New York: Random House, 1973), pp. 3–5, 20]

Brothers and sisters, the Lord's exhortation to be of good cheer is an invitation to come unto Christ. It comes without an expiration date—it is always open. You have important decisions to make and pressures from all sides. I hope that on this campus you feel encouragement and support from the faculty and leaders. My experience with my colleagues is that you are loved and respected. If I may speak for them, we are concerned for your welfare and happiness. We understand something of your challenges. We are grateful for your faithfulness and consider it a privilege to work with you.

While the inflationary economics of entropy create disorder and confusion, the reversibility of sin begs us to apply the atonement of Christ through repentance to continually move toward the Savior. We are reminded weekly to

“always remember him” that we “may always have his Spirit” to be with us (D&C 20:77). Might it be that we remember him because he first remembers us? Though he can forget our sins, he will always remember us, for he said: “Can a woman forget her sucking child, that she should not have compassion on the son of her womb? Yea, they may forget, yet will I not forget thee, O house of Israel.” And, in reference to our God-given ability to obtain forgiveness for our sins and thereby undergo a reversible process, he said, “Behold, I have graven thee upon the palms of my hands; thy walls are continually before me” (1 Nephi 21:15–16).

The Lord's exhortation to be of good cheer apparently created a spiritual momentum among his apostles that persisted through many experiences. It seems from the scriptural record that he repeated the admonition only at times that were especially trying or intense. Whether we need a mid course adjustment or a boost to keep moving, the inertial force of the following admonition to a small band of Saints during a dangerous journey down the Missouri river is powerful:

*What I say unto one I say unto all, be of good cheer,
little children; for I am in your midst, and I have
not forsaken you.*

*And inasmuch as you have humbled yourselves
before me, the blessings of the kingdom are yours.*
[D&C 61:36–37]

In the words of President Ezra Taft Benson:

*He is the same loving, compassionate Lord today as
when He walked the dusty roads of Palestine. He is
close to His servants on this earth. He cares about
and loves each of us today. Of that you can be
assured.*

*He lives today as our Lord, our Master, our
Savior, our Redeemer, and our God.*

*God bless us all to believe in Him, to accept
Him, to worship Him, and to fully trust in Him.*

["Jesus Christ: Our Savior and Redeemer,"
Ensign, November 1983, p. 8]

In the words of our dear prophet, President
Gordon B. Hinckley:

*We have nothing to fear. God is at the helm.
He will overrule for the good of this work. He will
shower down blessings upon those who walk in*

*obedience to His commandments. Such has been His
promise. Of His ability to keep that promise none of
us can doubt. ["This Is the Work of the Master,"
Ensign, May 1995, p.69]*

I know the things that I have said today are
true. I say this in the name of Jesus Christ.
Amen.