I am honored to speak with you today and grateful for the help of the BYU Broadcasting team in preparing.

The title of my talk, “The Messy Middle of Revelation,” was inspired by a conversation that I had in 2007. I was part of a team that hosted the national meeting for the Acoustical Society of America in Salt Lake City. A dozen of our colleagues had come from around the United States to plan the technical program and assign rooms to different events. After our long planning session, we took our guests to the Roof Restaurant, with its lovely view of the Salt Lake Temple. I’m sure dinner was amazing, but I remember this night so vividly because of the conversation I had with two of my colleagues on the walk back to the hotel.

As we were walking, one turned to me and asked, “Do you really believe what they say about Joseph Smith?”

I replied that I did—and still do—believe that, in the spring of 1820, Joseph Smith prayed to know which church to join. In answer to the humble prayer of this fourteen-year-old farm boy, God the Father and His Beloved Son, Jesus Christ, appeared and called Joseph to restore Christ’s Church to the earth. Joseph Smith was the first latter-day prophet.

I then explained that the Church of Jesus Christ has been led by prophets to this day. As members, we each have the responsibility to do as Joseph Smith did—to ask God and receive our own personal confirmation of what the prophet tells us.

His response surprised me. He said, “That sounds very disorganized.”

As I was wondering how to respond, our colleague from New Orleans, who had recently lived through the cleanup after Hurricane Katrina, emphatically said, “If there is one thing their Church is, it’s organized.”

Since that conversation, I have often thought about how it may seem disorganized and a bit messy to have two sources of revelation or inspiration from God. First, prophets have the responsibility to obtain revelation to lead the
Church and provide guidance to us. Second, we each have the responsibility to use our free will or agency to receive personal inspiration from the Holy Spirit.

Do you ever feel caught in the messy middle between these two sources of revelation that connect us with God? Brené Brown once said in a different context, “The middle is messy, but it’s also where the magic happens.”¹ I think that applies here.

As I have pondered how we deal with being in the messy middle of revelation, I see an analogy with how sound travels in the ocean.

**Underwater Sound Propagation**

My research area is underwater acoustics. You may be familiar with the idea of active sonar, in which a noise is sent out and after a time reflects off an object and causes an echo. My research, however, deals with passive sonar, in which the underwater microphones, called hydrophones, do not emit pings but merely record the sounds in the ocean. These sounds are then used to infer properties of the ocean environment and determine the origin of the sound. You might wonder how it’s possible to extract so much information just from listening. The key is that the ocean environment changes how the sound travels from point A to point B. By ocean environment, I mean the water depth, the temperature, and the sediment on the ocean floor.

When something produces a sound in the water, the sound wave travels outward in all directions. But it doesn’t necessarily travel in a straight line to the hydrophone.

In the ocean, sound waves bend toward depths that have the lowest sound speed. This phenomenon is called refraction.² The sound speed depends on the temperature, pressure, and salinity of the water. These properties vary across the oceans and can change seasonally and daily due to weather patterns. Thus, sound waves can experience complex refraction when traveling from the sound source to the hydrophone.

In the deep ocean, the sound speed first decreases with depth (down to approximately three thousand feet) and then increases farther down. This minimum value³ in the sound speed causes a focusing effect due to refraction and gives rise to what is called the SOFAR channel.⁴ Low-frequency sounds in the SOFAR channel travel very far—thousands of miles. The SOFAR channel was used to locate downed pilots during World War II and to search for foreign submarines during the Cold War.⁵ Currently the SOFAR channel is used to listen to whales and to monitor earthquakes.⁶

Another wave phenomenon that impacts how sound travels in the ocean is reflection. You have experienced the reflection of sound when you’ve heard echoes. Sound in the ocean reflects off the surface of the water and the ocean floor. When the sound waves hit the surface of the water, they reflect with the same energy. But when the sound hits the ocean floor, only some of the energy is reflected while some is transmitted into the sediment layers.

How much of the sound is reflected depends on what type of material makes up the sediment layers of the ocean floor. For example, sound is reflected more by sand than by mud. When the ocean floor has a lot of sand, especially near the top, sound can be heard at farther distances. Mud tends to not reflect much sound and instead allows a lot of the sound to travel into the ocean floor; this absorption causes less sound to be reflected in the water, even at relatively close distances. Below the complex layering of sediment in the ocean floor lies the bedrock, formed from the compression of mud and sand and other substances over geological time scales.

**An Ocean Acoustics Analogy**

My analogy for the messy middle of revelation is based on these phenomena of refraction and reflection, with particular emphasis on mud, sand, and rock.

We believe that our individual spirits lived with God before we were born. During that time, we were in direct communication with Him—we received His voice directly. When we were born, a veil was drawn so we no longer remember that time. In my analogy, birth is like entering the water. God loves us and wants to communicate with us, but we can no longer receive His word directly. Instead, He communicates with us via the Light of Christ, prophets, and the Holy Spirit.
Each person is born with the Light of Christ. Small children are more in touch with this Light of Christ—almost as though they were in a protective SOFAR channel. But with time, that protective channel weakens, and we are bombarded by all sorts of sounds and messages from the world. This background noise can make it difficult to hear the promptings of the Light of Christ.

To help us, the Lord sends more directional sources of revelation to convey His word.

**Prophets**

First, the Lord sends inspiration to His prophet. In my analogy, I imagine a directional loudspeaker pointed toward the ocean surface. Just as the surface of the ocean almost perfectly reflects sound, so the prophet passes on the revelation he receives from the Lord.

In the Old Testament, we read about many prophets. For example, Moses was called to be a prophet when the Lord spoke to him through a burning bush and then told him how to lead the children of Israel out of bondage. Isaiah, Jeremiah, and many other prophets warned the people and prophesied of Christ’s coming. In the New Testament, Peter led the Church after Christ’s death. Similarly, Joseph Smith was called to restore Christ’s Church. Since that time, the Church has been led by a prophet.

Our current prophet is President Russell M. Nelson. He speaks to us regularly at our biannual conferences, writes letters about official matters, and has communicated with us in video messages and emails during this pandemic. Here are a few of the things he has told us recently as he reflects the Lord’s word to us:

As we seek to be disciples of Jesus Christ, our efforts to hear Him need to be ever more intentional. It takes conscious and consistent effort to fill our daily lives with His words, His teachings, His truths.

Each of God’s children deserves the opportunity to hear and accept the healing, redeeming message of Jesus Christ. No other message is more vital to our happiness—now and forever. No other message is more filled with hope. No other message can eliminate contention in our society.

I call upon our members everywhere to lead out in abandoning attitudes and actions of prejudice. I plead with you to promote respect for all of God’s children.

Are you willing to let God prevail in your life? Are you willing to let God be the most important influence in your life?

I truly cherish the words of our prophet. I listen to his messages regularly and am grateful for his inspired words. It seems to me that since he became the prophet in 2018, President Nelson has carefully examined what we do in the Church and has petitioned the Lord to know if our traditional way of doing things is what the Lord would have us do at this time. We have seen significant changes because of the revelation that President Nelson has received from the Lord. I am grateful for his diligence and for his sharing these revelations with us.

The words of the prophet are readily available to everyone with a connection to the internet. However, reading or listening to his words is not enough to convince us of their truthfulness. That is the job of the Holy Spirit.

This is a plea from the prophet to us a year ago as we entered the COV-SARS-2 pandemic: “I renew my plea for you to do whatever it takes to increase your spiritual capacity to receive personal revelation.”

**The Holy Spirit**

How do we receive personal revelation? We need to be able to hear and feel the Holy Spirit.

When Christ lived on earth, He explained to His disciples that He would send the third member of the Godhead, the Holy Spirit, to comfort them and speak peace to their hearts. The Holy Spirit also testifies to us of the reality of God the Father and His Son, Jesus Christ, and confirms truth. This witness from the Holy Spirit enables the words of the prophets and the scriptures to make a difference in our lives. The Holy Spirit also brings things to our remembrance—which is very helpful, for example, after you’ve studied hard for an exam. The Holy Spirit helps us discern what we should do and say and is the source of the divine discontent that prods us to change and turn to
the Lord. The Holy Spirit is the conduit through which we can access God’s love and forgiveness if we sincerely and humbly ask and are able to receive them.

In my ocean acoustics analogy, I envision inspiration from the Holy Spirit as being delivered by a directional speaker pointed toward the ocean floor. The ocean floor represents the physical, emotional, mental, social, and spiritual environment of our lives. Our personal revelation from the Holy Spirit reaches us through this environment. The realities of our lives and our daily thoughts, choices, actions, and interactions with others impact our ability to feel the Holy Spirit—similar to how the presence of mud or sand in the ocean floor impacts the amount of sound present in the ocean.

I will spend the rest of my time discussing how the messy mud, sand, and rock—our personal environment—impact our ability to receive inspiration from the Holy Spirit.

**Mud**

Mud is natural. At times, feeling mud squelch between your toes or using it to build an imaginary city might be fun. But ultimately, mud is messy. More to the point for my analogy, mud absorbs sound. Mud strips away the energy in the sound waves so that the sound waves cannot continue traveling to the hydrophone.

Recently I have observed an increased amount of mud in our lives, both individually and collectively—mud that limits our capacity to hear the still small voice of the Spirit. I can fill pages with lists of the kinds of mud that I, my family, my friends, and my students have in their lives, especially fifteen months into this pandemic. I invite you to identify a few of your top sources of mud as I mention a few general types of social, physical, emotional, and mental mud.

Our social environment may include some mud. Social interactions might occur in person, online, or just in your own brain. Any interactions that cause or promote contention or negativity are sources of mud. Ask yourself what kinds of social mud you are causing or experiencing. I invite you to consider what you can do to limit these social types of mud. If someone or something—such as social media, video games, virtual reality, talk shows, or podcasts—is a source of contention or negativity in your life, plan how you can limit that source of mud.

The following are examples of social mud:

- Poor communication
- Misunderstandings
- Contention
- Grudges
- Vengeance
- Dishonesty
- Betrayal
- Hatred
- Impatience
- Bullying
- Backbiting
- Gossiping
- Labeling
- Criticizing
- Whining
- Belittling
- Complaining
- Mocking
- Blaming
- Fearmongering

Our physical bodies can contribute to our mud. For many of us, fatigue and exhaustion are huge sources of mud. Any of the multitude of the miraculous systems in our bodies can have problems. Some of these problems are temporary; others are chronic. In many instances, the amazing body can heal itself. In other instances, medical advances can help our bodies heal. But sometimes complete physical healing is not possible. Do you have physical things that are acting like layers of mud? Is there anything you can do to change them? Or do you just need to learn how to deal with them?

The following are examples of physical mud:

- Fatigue
- Exhaustion
- Insomnia
- Hunger
- Malnutrition
- Food sensitivities
- Allergies
- Low blood sugar
• Physical limitations
• Pain
• Sickness
• Illness

The largest source of mud for most of us is probably our emotional and mental environment.

First, I would like to say that the broad range of human emotions is natural. It is normal to experience anger, sadness, fear, anxiousness, grief, and all other negative emotions. If we can accept that these emotions are natural, then we are in a better place to deal with them constructively. It is important to learn appropriate ways of expressing and dealing with our negative emotions and to not deny or suppress them.

Our emotions originate in the brain and are tied up with our mental processes. What are some of your types of emotional and mental mud?

The following are examples of emotional mud:

• Isolation
• Helplessness
• Anxiety
• Depression
• Entitlement
• Ingratitude
• Despair
• Frustration
• Impostor syndrome
• Obsessions

For example, the pandemic restrictions over the past year have increased feelings of isolation, helplessness, anxiety, and fear for many of us. Are you still dealing with extra mud from the pandemic?

Or do you deal with mud from an addiction? In addition to addictive substances, gambling, and pornography, the list of possible addictive behaviors also includes electronic games, virtual reality, and social media. You may ask why these seemingly normal things are addicting. The reason is simple—someone makes more money if you get addicted. They design their products to stimulate the pleasure sensors in your brain. Every battle won, every level completed, and every “like” or emoji response sends a shot of dopamine to the brain. The brain remembers that and wants more of it.

The following are examples of addictive mud:

• Substances
• Pornography
• Gambling
• Video games
• Virtual reality
• Social media
• Phone apps
• Screen time

Just to be clear, I am not saying that video games are evil or that you should not participate on social media platforms. But please be honest with yourself (or ask someone who loves you) if you have an addiction that is pouring mud into your mental environment.

In particular, I invite you to examine your smartphone usage. Are you using your phone as a tool or are you a slave to the pings and notifications? Do you use your phone purposefully or is it your default mode to be looking at something on your phone instead of at the people or the world around you? The amazing technological advances that we use every day are wonderful if we choose to use them wisely. If not, they can add a lot of mental and emotional mud.

This concept of choice is central to dealing with many sources of mud. For example, if you find yourself saying, “I can’t help it; it’s just the way I am,” you have abandoned your right to choose something different. You have surrendered to mental mud.

Recent research in brain sciences has shown the reality of neuroplasticity—that the brain can change its thought patterns with diligent effort. Neuroplasticity is exciting because it means that you are not stuck with the brain you currently have.13

Your brain does an incredible job at not only keeping you alive but allowing you to experience life. Unfortunately, brains have a natural tendency to automatically generate negative thoughts.14 These negative thoughts are like Velcro in your brain.15 This Velcro becomes stronger every time you let the negative thoughts go unchallenged.
Dr. Daniel G. Amen has identified specific types of automatic negative thoughts that many of us experience. The following are examples of mental mud:

- All-or-nothing thinking
- “Always” or “never” thinking
- Forecasting the worst
- Fortune telling
- Mind reading
- Guilt beating
- Labeling
- Blaming

I invite you to step back and realize that you are not your brain; your brain is an organ, like your heart. Instead of believing every thought that arises, you can choose to question if the negative thoughts are true. Ask yourself, “Is this thought 100 percent true?”

For example, when I have a thought like “I am going to fail” or “I am so stupid,” I have the choice to either believe it and deal with the fallout or to talk back to the thought. Sometimes it is helpful to write down the negative thought and then write down why it is not 100 percent true.

I am not suggesting that you ignore what your brain is telling you. A healthy level of fear or anxiety is important to keep you safe. For example, fear of a car accident encourages us to drive attentively and defensively. But the fear and anxiety that come from sustained negative thoughts and emotions can disrupt our lives, and these fears need to be addressed. What fears are sources of mud for you?

The following are examples of excessive fears:

- Fear of failing
- Fear of not fitting in
- Fear of not knowing what to do or say
- Fear of disappointing others
- Fear of not meeting expectations
- Fear of confirming negative stereotypes
- Fear of missing out

Many of the types of mud I’ve mentioned can be dealt with using the types of sand that I will discuss in a moment. But first I want to acknowledge that there are substantially more difficult types of mud. Returning to our ocean floor analogy, the mud from grief, abuse, trauma, and serious mental conditions can be so thick that it can completely absorb promptings from the Holy Spirit and, thus, needs to be handled carefully.

For both the common and the serious types of mud in your life, I encourage you to find out what you can do. Mud is real; we all deal with different kinds of mud. To me, this analogy of mud incorporates the default human condition—what it means in the scriptures when it states that “the natural man is an enemy to God.” If we do not deal with the mud in our lives, we are not able to receive inspiration from the Holy Spirit, which offers us hope, leads us to truth, and allows us to feel God’s love.

Sand

In my ocean analogy, I liken the things we can do to reduce the impact of the mud to adding layers of sand to the ocean floor. Not only do these things help us feel better and deal with the mud in our lives, but they also increase how our “environment” reflects the Holy Spirit.

Examples of ways to add sand and improve our reception of the Holy Spirit can be found in many places. For example, wellness webpages and the BYU Counseling and Psychological Services page are filled with ideas to limit anxiety, improve sleep, and so on. I encourage you to consider your list of mud and see what specific types of sand can help.

I am going to share with you some of my favorite types of sand.

First, practice gratitude. The Lord has long told us about the importance of gratitude, but now scientific research has confirmed that the brain functions better when a person focuses on gratitude. When I end the day by writing down three things that I am grateful for, it makes a difference.

Similarly, scientific studies have confirmed the positive benefits of compassion and service on brain health. In fact, Christ’s Sermon on the Mount lists many types of sand that increase our ability to feel the Holy Spirit. The descriptions of charity by Paul are also filled with excellent types of sand to work on.
Optimism is another type of sand. My favorite definition of an optimist is someone who understands there are challenges but believes they have the resources to overcome those challenges. As we strive to feel the Holy Spirit, we can be optimistic, for the Lord is on our side and wants to help us overcome and progress.24

One of the healthiest things for your brain to do is to learn. Doing a hard thing that you are familiar with is not the same as learning something new because the amazing brain figures out easier ways to do hard things each time it practices. Learning something new forces your brain to forge new connections and not be stuck in ruts.

Another type of sand is creativity. President Dieter F. Uchtdorf explained that creating brings us closer to God because He is the Creator of all.25 What you create is not important, just the act of creating. Music is particularly powerful. Singing, dancing, and playing music, even just by yourself, are all ways to lay down layers of reflective sand.

Physical activity and being in nature are excellent sources of sand. Whether it is taking a walk, admiring the flowers, hiking in the mountains, or having a picnic in the park, being outside can help you to feel the Holy Spirit.

Positive social interactions are another great source of sand. Dr. Daniel Amen suggests that you surround yourself with the most positive people you can stand.26 Anything that promotes smiles, good humor, and laughter adds sand to your environment. Find people with common interests and goals and do something positive. Share compliments and compassion generously.

The following are examples of positive social interactions:

• Smiles
• Humor
• Laughter
• Games
• Stories
• Goals
• Compliments
• Encouragement
• Compassion
• Service

Many find it difficult to take the time to add the sand of self-care. Are you getting adequate sleep and good nutrition? Are you taking time to read and ponder the scriptures and other uplifting messages? Are you praying to your Father in Heaven, communicating your gratitude, hopes, fears, and desires and then taking time to listen?

In our busy world with so many distractions, especially those on screens, please consider how taking time for self-care can add sand and reduce mud in your life.

The following are examples of self-care:

• Good nutrition
• Adequate sleep
• Exercise
• Deep breathing
• Meditation
• Mindfulness
• Scriptures
• Uplifting messages
• Prayer
• Pondering

This is not a checklist, just some ideas. The sand you need is tied in with your unique combination of mud. What matters is that you find the types of sand that are most effective at helping you feel inspiration from the Holy Spirit.

I would highly recommend that you ponder and consult with the Lord to know what types of sand would be most effective for you at this moment. Then check in regularly to see if additional or different types of sand are needed.

For example, when I had three young children, I was dealing with fibromyalgia while trying to keep a toe in my career by telecommuting five to ten hours per week. I remember the craziness of one general conference weekend. As I was trying to listen, the Spirit spoke three words to me clearly: “Play more music.” While it may seem like that had nothing to do with my situation, the Lord knew that music was exactly the kind of sand my family and I needed at that time.

At one point, my normally resilient self was rocked with depression. While not as bad as many people experience, it occasionally left me in a dark place, curled up on the floor wondering...
how I would be able to go on. I struggled for quite a while, with no one knowing—just carrying on as so many do. As I pled with the Lord to know what to do to combat the continual flow of mud in my brain, the thought came: “Listen to the Book of Mormon: Another Testament of Jesus Christ.” So, I started. Every moment that I was not actively using all of my brain for something constructive, I listened to the Book of Mormon. As I drove, cleaned, folded laundry, and waited in lines, I let the teachings of Jesus Christ wash over me. This continual flow of sand was sufficient to provide a break in the darkness so that I could then begin to work on the other types of sand I mentioned today.

If none of these types of sand provide relief from your sources of mud, please get professional help. There exist effective therapies, especially for dealing with severe depression, anxiety, grief, and trauma. Medications may be necessary in the short or long term if your brain is functioning in a way that is harmful to your well-being.

**Rock**

I have spoken a lot about mud and sand, but now I wish to turn your mind to rock. Below the sediment layers in the ocean, the foundation is bedrock.

Think for a minute about your foundation. You may have lots of mud and some sand. You will hopefully be able to find ways of decreasing the mud and increasing the sand. But neither you nor I can change our mud or sand to rock. Only the Atonement of Jesus Christ can create rock—a sure foundation.

I truly believe that the power of Christ’s Atonement can change even the most awful circumstances of our lives—the deepest, thickest, most continual types of mud—into rock. He suffered for our sins to satisfy the demands of justice. He experienced every negative thought, emotion, pain, anxiety, frustration, despair, grief, and trauma as part of His Atonement. Christ chose to do this for us because He loves us. God the Father let Christ suffer to this extent because He too loves us. They both want us to feel that love through the Holy Spirit every day. As we feel that redeeming love, the mud in our lives can be changed to rock.

Remember the scriptures about how a house built on rock could withstand the storms? What happened to the house built on the sand? It washed away, right? While laying down layers of sand is important, our sand will not be enough to withstand the storms of life if we do not allow the inspiration that we receive from the Holy Spirit to change us.

To change our sand into rock, we need to continually work on developing our personal relationship with God the Father and Jesus Christ. We need to allow the Holy Spirit to testify to us of Their reality and Their great plan of happiness. We need to receive strength when times are hard and learn to trust in the Lord. We need to let Christ’s Atonement fill us with understanding, compassion, empathy, charity, faith, and hope—to connect us to “the rock of our salvation.”

**Concluding Thoughts**

I have thought about these ideas for a long time, and I hope I have been able convey them in a way that has invited the Holy Spirit to speak to you. Inspiration from the Holy Spirit has been so important in my life. When I was a young college student wondering what I should major in, I chose physics even though I did not have an answer to the question “What will you do with that?” I felt peace through the Holy Spirit. When I went to graduate school but didn’t know how a PhD in physics would mesh with my desire to primarily be at home with my young children, I kept going because the Holy Spirit whispered peace. As different unexpected opportunities arose for me to keep a toe in my career, I was amazed. I did not anticipate that when our youngest child was in eighth grade, the Holy Spirit would prompt me to apply for a full-time faculty job. When I applied, I did not anticipate that so many things would happen to make it exactly the right time to do so. I never planned to be a university professor and am still quite astounded by how things continue to unfold as I move ahead. I am extremely grateful for inspiration from the Holy Spirit.

I pray you will understand that the personal inspiration you receive from the Holy Spirit is the key. The Holy Spirit is the key to knowing what the Lord would have you do with the words of
His prophet so you don’t feel stuck in the messy middle of revelation. Inspiration from the Holy Spirit is the key to identifying your sources of mud and the key to understanding the most helpful types of sand. But most of all, the Holy Spirit is the conduit through which you can feel how much your Father in Heaven loves you and how Jesus Christ, through His Atonement, desires to change both your mud and sand to rock and to be your sure foundation.

I say these things humbly in Christ’s name, amen.

Notes
2. See “Refraction,” Discovery of Sound in the Sea, University of Rhode Island and Inner Space Center, dosits.org/science/movement/how-does-sound-move/refraction.
3. See “Sound Speed Minimum,” Discovery of Sound in the Sea, University of Rhode Island and Inner Space Center, dosits.org/science/movement/sound-speed-minimum.
4. See “Sound Travel in the SOFAR Channel,” Discovery of Sound in the Sea, University of Rhode Island and Inner Space Center, dosits.org/science/movement/sound-travel-in-the-sofar-channel.
5. See “History of the SOFAR Channel,” Discovery of Sound in the Sea, University of Rhode Island and Inner Space Center, dosits.org/science/movement/sofar-channel/history-of-the-sofar-channel.
17. See Amen, Change Your Brain, 118–19.
19. See “Biofeedback Links,” BYU Counseling and Psychological Services, caps.byu.edu/biofeedback.
22. See Matthew 5:3–16.
27. See Matthew 7:24–27.