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COLLEGE WEST CAMPUS.
FOR ADVERTISING/CONTENT INQUIRIES, CONTACT:
DR. ANTHONY PAUSTIAN
PROVOST, DMACC WEST CAMPUS
5959 GRAND AVENUE, WEST DES MOINES, IOWA 50266
515-633-2439 | ADPAUSTIAN@DMACC.EDU

CONTRIBUTORS:
PUBLISHER: ANTHONY D. PAUSTIAN, PH.D.
CO-EDITOR: BETH BAKER-BRODERSEN
CO-EDITOR: SARA STIBITZ
DESIGNER/PRODUCTION: AMINA MIRAJ ALI

COVER PHOTO: THE COMMAND-SERVICE MODULE ENDEAVOUR PILOTED BY AL WORDEN DURING APOLLO 15 PREPARES TO RENDEZVOUS WITH THE LUNAR MODULE. COURTESY OF NASA.

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EDITOR'S NOTE

I recently gave birth to a beautiful, spirited little girl.

Around my fifth month of pregnancy, her kicks and moves got harder—sometimes very hard—especially at night. She chose the wee hours of the morning as her time to shine (and frankly, she still does). Throughout my pregnancy I knew she and I lived in two separate worlds, each unknowable to the other but keenly felt regardless.

Watching her grow at an incredible rate during these early months has been a journey of its own. Every day I see her push the boundaries of her world as she encounters her environment. She reaches, grasps, touches, feels. One wonders how she interprets the passing headlights of a car, the smell of soup cooking on the stove, the sound of a guitar strumming, or the sight of snow falling gently. Just like the rest of us, she pushes her limits—to the nth degree.

It has always been a particularly human trait to push boundaries. In a universe that ranges from the smallest of neutrinos to the largest of galaxies. We constantly seek to learn and understand. In the 1966, the Apollo Space Program reached into the outer limits of space as we knew it then. More recently, SpaceX and others of its kind continue where Apollo left off. Closer to home, our exploration extends to the inner worlds with practices like meditation, yoga, and other mindful explorations. We are an inquisitive species, always trying to understand the worlds within our worlds. Yet every one of us is a universe unto ourselves, unknowable by any other human.

ciWeek is an invitation to explore our world through the experiences of some of the most accomplished people in our society today. Their knowledge allows us to look at ourselves and determine a path of our own.

In the following pages, you'll read about the people who have reached the pinnacle of their careers and have much advice to offer those of use who seek direction and a chance to satisfy curiosity. Read on for some insights from Al Worden, a command module pilot for Apollo 15 (among other things), and Bill Penczak, an internationally-recognized leader in marketing and sales, who share insights from the worlds of business and space travel. Bryan Nelson helps companies tap into the realm of virtual reality, a development that will change the way we live, work, and play in the virtual digital world. Joy Hakim shares her insights into the world of politics and how it relates to how we treat one another, while Greg Russell explains how he built his career in the world of film. Whatever your interest, you'll find plenty of inspiration from the events and people of ciWeek 8.

SARA STIBITZ, CO-EDITOR. SHE MAY BE REACHED AT SRSTIBITZ@GMAIL.COM.

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BY BRIAN NELSON

VIRTUAL REALITY AND *Exponential Change*

Between the years of 2001 and 2003, I lived in the Dominican Republic. Most of my time there was spent in rural communities far away from the luxuries of modern conveniences. Naturally, I knew technological advancement was happening around the world, but technology was not a part of my life in "el campo" (the country). Imagine my surprise when I arrived home in Colorado to find everyone carrying a mobile phone. Prior to leaving for the DR in 2001, I could count on one hand how many people I knew that carried a mobile device—and half of those devices were pagers. During my brief two years living abroad, the world had changed without my knowledge.

Fast forward to today. The rate at which technology is advancing has multiplied, 1000 times since 2001. If you disappeared today and returned in January of 2019, you wouldn't recognize the world you stepped into. The technologies being developed today are accelerating exponentially, causing massive disruption while holding the promise of solving the world's greatest challenges.

My first taste of exponential technology came in early 2011 when a friend introduced me to Bitcoin and explained it as programmable money. To be sure, I was confused at first, but I felt like there was something special about the technology and continued following it. As a result, I've been blessed with the opportunity to work with many of the leading companies in the space, speak at industry conferences across the country, and attend the Blockchain Summit on Richard Branson's private island with a handful of other influencers. I loved the Bitcoin ride, but it wasn't too long before I realized everyone I worked with in the Bitcoin space was also interested in disruptive technologies like virtual reality, artificial intelligence, 3D printing and sensors. And being a curious soul, I naturally jumped into those technologies headfirst.

I quickly found myself involved in projects spanning from virtual reality (VR) to artificial intelligence (AI) and the Internet of Things, the network connectivity of physical devices (IoT). During that time, I noticed the difficulties entrepreneurs experienced finding the specialized resources an exponential technology startup needs to get to market. After running into the same issues repeatedly, I decided the best way to provide global value would be to organize and deliver the necessary resources to entrepreneurs creating on the bleeding edge, which is why

BEHIND THE CURTAIN AT THE VOID ENTERING THE GHOSTBUSTERS EXPERIENCE LAUNCHED IN ALONG WITH THE NEWLY RELEASED MOVIE IN NEW YORK. USED WITH PERMISSION.

I launched ExTech Ventures. I now connect exponential technology startup entrepreneurs to resources (e.g., capital, legal, compliance, talent, marketing, etc.).

As an entrepreneur, consultant, and advisor focused on disruptive technology, I've been exposed to mind-blowing technologies and ideas, but the one I'm most excited about is virtual reality (including augmented and hyper reality). Virtual reality will affect every industry in unforeseen ways, particularly in terms of global impact. While attending the 2016 Experiential Technology and Neurogaming Conference in San Francisco earlier this year. I watched as Tim Ferriss, the author of *The 4 Hour Work Week* and host of the highly-rated podcast *The Tim Ferriss Show*, said virtual reality is the one place he would place all of his chips if he had to bet on one emerging technology. He isn't alone. His sentiments have been backed up by celebrated futurists Kevin Kelly, Peter Diamandis, and Ray Kurzweil. But we don't have to take their word for it. A quick Google search of "Virtual Reality" produces search results showing that the biggest names in technology are investing in and building for VR. Companies such as Facebook, Microsoft, Alphabet, Samsung, HTC, Qualcomm, Sony, IBM, Intel, Foxconn, and Amazon are all working to produce products and services for the industry. Hundreds of millions of dollars are being invested in VR and for good reason.

Just imagine if you could

- tour your custom-built home before construction has even started
- explore a shipwreck lying on the ocean floor while a humpback whale meanders by or
- walk with dinosaurs.

Or better yet, what if your cardiac surgeon could practice an especially difficult surgery on a precise simulation of your heart before the actual procedure?

MY FIRST INTRODUCTION TO THE HTC VIVE. I WAS BLOWN AWAY! USED WITH PERMISSION.

EXPERIENTIAL VR WAS THE MAIN ATTRACTION AT A CLIENT'S CUSTOMER APPECIATION EVENT. USED WITH PERMISSION.

The rate at which technology is advancing has multiplied 1000 times since 2001.

Believe it or not, all of the above scenarios are available or in production right now. Experiences that would be too dangerous or just not practical in the real world are exactly what will make the biggest impact on the world through VR.

The future of education is a hot topic. VR will play an important role in its evolution. In the coming years, our children will encounter a truly immersive educational experience. VR experiences available now help children learn about the universe by flying from planet to planet, or about other cultures by visiting Africa, Paris, and Mexico City. Schools of the future will be based on a social experience, where the teacher and students put on their VR headsets from the comfort of their own homes and meet in a shared virtual "classroom." As the administrator, the teacher will be able to launch specialized simulations to create an immersive learning experience that enables students to gain a new perspective. Institutions from elementary schools to universities will be leveraging the power of VR to enhance the learning experience.

Social VR is one of the main reasons Facebook bought Oculus for $2 billion in 2014. Mark Zuckerberg called VR the last and most powerful social platform. With the advent of realistic avatars—the characters we'll use to depict ourselves in VR—we'll be able to have shared experiences with family, friends, work colleagues, and random strangers—that rival in-person interaction. Today, I can put on my headset while sitting in Utah and join my brother who's sitting in his Colorado home to watch a movie, play ping-pong, or travel the world.

It's obvious: social VR is still in its infancy, but companies such as Morph3D are creating amazing-lifelike avatars that can morph into a character of your choosing using voice commands. Simply say "shorter," "taller," "skinnier," "fatter," "younger," or "older," and watch your personal avatar morph in real time. Creating realistic avatars will be so easy that we'll all have a personal clone avatar, for VR... or maybe you'll choose a fire-breathing dragon as your avatar, which is cool too. (My current avatar is a Mario head from the classic Mario Brothers game while my brother's is a yellow Lego head.)

The basics of virtual reality now are built on sight and sound, but to create a truly immersive experience, the other senses of smell, touch, and taste will need to be incorporated. Enterprise companies, researchers, entrepreneurs, and hackers around the world are working to bring all five senses into VR experiences, and they're making great progress. For example, a buddy of mine recently

ON THE SET OF *MAROONED*. USED WITH PERMISSION.

shared a YouTube video showing how to create a haptic glove (a glove able to feel virtual objects) for $20. By following the short tutorial, anyone with $20 and a desire to create can build something similar. Although the glove is a hardware hacker's dream, it's not ready for mainstream production. However, organizations like the University of Utah are focusing on developing commercial-grade haptics. A professor there has formed a formal research and development team to create haptic gloves to be used in medical simulations. In the next year or so, you'll be able to purchase haptic gloves, vests, shoes, and even full-bodysuits off the shelf.

But what about smell and taste? Even though smell and taste are a bit more complicated, an exciting startup called Project Nourished has found a way to allow users to experience dining without caloric intake while maintaining taste, smell, and touch. It won't be long before the lines separating the real world from the virtual world will be so blurred that we won't know the difference.

The basics of virtual reality now are built on sight and sound, but to create a truly immersive experience, the other senses of smell, touch, and taste will need to be incorporated.

After all of the amazing things you've just learned about the future of VR, I hope you're now convinced of its forthcoming impact on the world. But if not, then I invite you to try it for yourself. It only takes a few seconds for a new user to understand how powerful VR really is. No other technology makes such an immediate and lasting impact on its users. Last year I launched a company called Experiential VR with the purpose of exposing as many people as possible to the world of virtual reality. I travel the country taking the latest and greatest VR equipment and experiences to business expos, technology conferences, schools, and other places where people are eager to find out what all the hype is about. It doesn't matter where I am or the demographic of the audience, the reaction is always the same. Smiles, laughter, and a feeling of wonder take over the user. And if a user is entrepreneurially minded, she'll start brainstorming out loud, trying to figure out how she can use VR in her business or she'll rattle off a million other uses for the technology. It's thrilling to provide people with their first virtual reality experience and share in their joy.

I've had the luxury of trying most of what virtual reality has to offer, from simple videos viewed through a Google Cardboard all the way to experiencing THE VOID, a fully immersive 4D experience considered the gold standard in VR and known as the original Hyper Reality company. It's changed my life. I had my moment of awe when I put on the Oculus Rift for the first time and rode with Neil Armstrong and Buzz Aldrin to the

BRIAN NELSON. USED WITH PERMISSION.

Brian Nelson is the founder of ExTech Ventures, an organization that helps exponential technology entrepreneurs launch world-changing products and services. Before launching ExTech Ventures, Brian founded Experiential VR, a virtual reality marketing company and co-founded Sig3, a security product for Bitcoin wallets. As a recognized figure in the Bitcoin and blockchain technology ecosystem, he has consulted many of the top digital currency companies, spoken at numerous industry events and was one of 40 industry insiders invited to attend the Blockchain Summit with Richard Branson on Necker Island. Brian's mission is to inspire, educate, and empower individuals and organizations to leverage emerging technologies to become exponentially more valuable to the world.

For more information, visit ciWeekExperience.com

BRIAN NELSON WILL PRESENT AT THE DMACC WEST CAMPUS ON WEDNESDAY, MARCH 1, AT 8:45AM, IN THE AUDITORIUM.

moon to experience "One small step for man, one giant leap for mankind" in person.

The VR experience was called Apollo 11, named after the famous space exploration mission. I remember walking to board the spacecraft with Neil and Buzz, listening to audio footage of them talking about their chances of accomplishing the mission and returning to earth safely. I wondered if I would have been as courageous as those true pioneers. A few minutes later, I found myself sitting in the cockpit after takeoff, rumbling toward the moon. Peering out the tiny circular window of the spacecraft, I watched as we swiftly pulled away and felt awestruck at seeing the curvature of the earth come into view. Moments later we dropped our boosters as we broke through the atmosphere. Everything went silent. Tears ran down my cheeks as I experienced the perceived lack of gravity.

I knew I wasn't in space traveling to the moon, but my mind acted as if it was real. It was this emotional reaction to a fictitious event that helped me realize the true power of virtual reality. I hope you'll explore the world of exponential technology and join me in becoming a modern-day pioneer.

The future of education is a hot topic. VR will play an important role in its evolution. In the coming years, our children will encounter a truly immersive educational experience.

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AL WORDEN IN THE COMMAND MODULE. COURTESY OF NASA.

TO THE MOON AND BACK:

Painting the Big Picture with Big Personalities

BY AL WORDEN
with Bill Penczak

THIS IS THE FIRST OF A TWO-PART ARTICLE

The Apollo mission is perhaps our single greatest achievement–so far. In a comparatively short time frame, the mission refined existing technology, invented new technology that affects our lives today, and fulfilled dreams Americans have held for centuries.

AL WORDEN SPEAKING WITH APOLLO 15 MISSION COMMANDER DAVE SCOTT. COURTESY OF NASA.

NASA's investments in the Apollo program have been credited with advancements in medicine, metallurgy, electronics, telemetry, data processing, communications, astronomy, and geology, to name a few. As someone who started out as a test pilot, spent six and a half years in astronaut training, acted as the ground crew for Apollo 9 and backup crew for Apollo 12, and served as Command Module Pilot for Apollo 15 (a 250,000-mile journey to Hadley Rille), I now see parallels between the Apollo program and today's American businesses.

After retiring from NASA, my career took a more terrestrial trajectory over the past two decades. I held an executive position in a Fortune 500 aerospace manufacturer, acted as the CEO of a construction company, assisted in various entrepreneurial endeavors, and served in charity leadership positions. As a result, I've observed several parallels between what we've achieved in space and what it takes to operate a successful enterprise. For instance, leaders must paint the big picture and continue to fill the organizational communication vacuums so people can rally around a project, mission, or cause. Equally important is the need to manage the interpersonal dynamics of an organization comprised of strong personalities.

Big Achievements: Painting the Big Picture

If you haven't already seen it, search YouTube for either the John F. Kennedy Rice University speech in September 1962, or his speech to Congress about the space program in May 1962. You will be struck by the power and audacity of the message. The Rice University speech contains this stirring challenge:

> *"We choose to go to the moon. We choose to go to the moon in this decade and do the other things, not because they are easy, but because they are hard, because that goal will serve to organize and measure the best of our energies and skills, because that challenge is one that we are willing to accept, one we are unwilling to postpone, and one which we intend to win…"*

But JFK laid it out, admitted it would be expensive, and then moved on to remind the country of the nobility of exploration.

At the time of the Kennedy Rice speech, the U.S. was perceived to be losing the space race; Russian cosmonaut Yuri Gagarin was the first human to leave Earth's atmosphere in April 1961. The Russians had launched the Sputnik satellite four years earlier, and in a time of Cold War paranoia, many Americans felt vulnerable and diminished.

No doubt Kennedy's remarkable oratory skills, combined with the stirring words of speechwriter Ted Sorensen, made the Rice speech one of the most famous in the past half-century. Contrast those stirring words to some of the gobbledygook spewed by today's CEOs, spin masters, and politicians. Some of it is choreographed "spin," either to explain a poor earnings report, a product recall, or bad behavior of a senior executive or member of Congress. But most corporate communication—about even the most pedestrian topics—is often obfuscated word soup that at best goes ignored, or at worst, is ridiculed at the water cooler.

Besides the eloquent delivery and optimistic tone, the structure of JFK's addresses on the space program provide lessons for today's corporate leadership:

- The goals were simultaneously *inspirational* and *achievable*, striking the unique balance of painting the big picture (putting a man on the moon) while reminding the audience how it was possible. Too much of today's corporate communication seems heavy on the former and light on the latter.
- Kennedy's messages were *specific*: the goal to land a man on the moon by the end of the decade. While this scared the hell out of NASA management at the time, the specificity gave reason to believe it was achievable, and supplied a deadline for those charged with making it happen. How many meetings have you attended in which everyone agrees on an initiative or action step, closes their notebooks, and returns to their day job without the specificity of the "how" or "when"?
- Kennedy told *tough truths* and publicly acknowledged the potential elephant in the room. In his address to Congress, the President laid out the cost of the Apollo program, which heretofore had been a serious objection. The U.S. had experienced an economic downturn from 1957-61, which tamped the nation's appetite for expensive (and to some, foolish) investments in space. But JFK laid it out, admitted it would be expensive, and then moved on to remind the country of the nobility of exploration.

In today's talent market where companies compete for the best and the brightest, painting the big picture is vital. According to a 2013 *Forbes*[1] article, "Two Of The Top Six Reasons High-Performing Employees Leave A Company" relate to communication: an absence of vision and the lack of connection to the big picture. Employees want to know "what's in it for me," or WIIFM. The WIIFM question isn't necessarily about money or promotions—it's about inspiring and motivating employees to invest more of themselves for a greater good. High-performing companies have the courage to inspire; companies that fail to inspire simply get less from their employees.

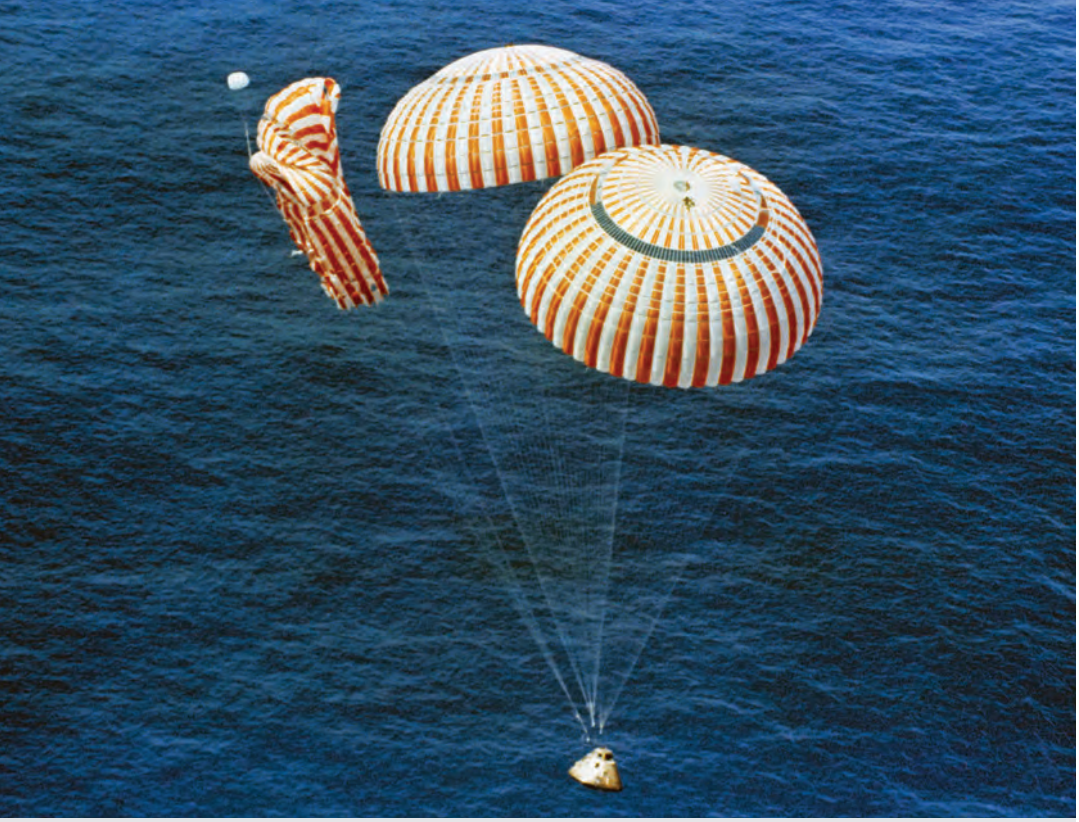
THE CREW OF APOLLO 15 (DAVE SCOTT, AL WORDEN AND JIM IRWIN) AFTER SPLASHING DOWN IN THE PACIFIC. COURTESY OF NASA.

In today's talent market where companies compete for the best and the brightest, painting the big picture is vital.

The challenge to inspire and paint the big picture today is even more important as the Millennial generation comes of age. Millennials are curious—even demanding—about understanding the greater purpose of their employer. Failure to communicate the greater picture could result in failure to launch.

My experience as an astronaut, and even more so as an executive of a major aerospace company, made me realize that senior management can't always rely on middle management to either embrace or promulgate "the message." There's a reason it's called "tone from the top." Employees want to know where the boss is leading them, and if you've hired the right people, they'll run with it. Regular, clear, and planned internal communication is even more important than external communications.

Shortly after his Rice University speech, while touring Mission Control in Houston, President Kennedy encountered a janitor holding a broom. "What do you do here at NASA?" the President inquired. "I'm helping put a man on the moon," the janitor replied. You don't have to have the oratory skills of Jack Kennedy to be a successful business leader. But you must communicate—often—with clarity, truth, and inspiration, whether to the entire corporation or one employee with a broom. Of course, accomplishing the big picture often requires employees with Big Personalities.



ONE OF THE PARACHUTES FAILS TO DEPLOY DURING THE APOLLO 15 SPLASHDOWN. A SECOND CHUTE FAILURE WOULD HAVE BEEN CATASTROPHIC. COURTESY OF NASA.

Big Personalities: A Conundrum For Management

Big Personalities accounted for some of the Apollo program's successes as well as some of its foibles. We had to manage a mix of politicians (elected and not); technicians whose Big Personalities surfaced at the most inopportune moments; and former test pilots (like me) who flew the missions with smarts, bravado, and testosterone.

The Big Personality syndrome from the space program was captured by Neal Thompson in his book, *Light This Candle: The Life and Times of Alan Shepard*. Shepard was the first American in space on the Mercury 7 mission, and later served as the Commander of the Apollo 14 mission.

The epitome of the image that NASA had hoped to portray when they selected the first astronauts, he flew as an aircraft carrier pilot and test pilot who drove fast cars, smoked cigars, and drank martinis. He was stylish and cool and cocky. I've described him as Don Draper in a spacesuit. He represented that "Mad Men" era—cool and suave and all that.

Shepard's whole life was about competition, whether it was in sports as a youth, or competing among other naval aviators when he was a carrier pilot. It just sort of ramped up at each stage of his career: becoming a test pilot where he competed with some of the best aviators on the planet, to be selected among the extremely elite group of Mercury 7 astronauts, and then competing against them for that first ride. But he thrived on that, and it was fun to explore what that meant in the scope of the space program.

Corporate management[2] typically loves Type-A personalities. People similar to Alan Shepard have the most successful divisions and the highest sales volumes, plus they are rarely reticent to face a new challenge. Type-As get things done, but they may be prone to disregard convention, rules, protocol, or even common sense. And they can have a penchant for taking no prisoners, much to the chagrin of their co-workers.

Today, management has access to sophisticated tools and processes to assess personality types, such as Myers-Briggs, DISC, Kiersey, or iPersonic, among others. The challenge then becomes how to manage disparate typologies and preserve a modicum of corporate order.

Based on my corporate experience after retiring from NASA, I've developed a few observations for managing Big Personalities:

- Disparate ways of thinking about and attacking issues are fundamentally positive. While the process tends to engender conflict and angst, the result of developing better ideas, challenging convention, asking questions, and not defaulting to "We've always done it this way" are worth the battles to get there.
- Managing a Big Personality team should always be rooted in an organization's mission, vision, and values. Twenty years ago, I was skeptical of the "soft" stuff, but I have come to realize that living the corporate values can both inspire and serve as the prism through which effective managers can assess employee behaviors. (A good resource on that topic is a recent book called *Get Your Head Out of Your Bottom Line*, by Bethany Andell and Jackie Dryden.)
- Effective managers should anticipate the challenges of different timelines among groups. The Big Personalities in sales, marketing, engineering, manufacturing, and finance sometimes conflict with everyone else, because what is important to each at any given time differs—even for groups in the same process. Those in sales focus

AL WORDEN SUITING UP FOR HIS JOURNEY TO THE MOON. COURTESY OF NASA.

on this month's quota; marketing people try to build a brand into the future. Engineers design the next year's widget; manufacturing tries to produce this week's widget quota. Teams with different priorities and no appreciation of contiguous workflows can result in corporate strife.

- How people are organized matters. Beyond technical or subject matter expertise, today's savvy managers should consider the personality types, work habits, and demeanor of multifunctional teams to maximize effectiveness. All Type A's would kill each other, while passive-aggressive employees would quietly destroy each other. Some conflict is healthy, and learning to collaborate with other personality types is part of professional and organizational development.
- Big Personalities need regular input and contact. This is due in part because of the "forgiveness vs. permission" tendencies of Big Personalities. But, more important, BPs like attention and need to be stroked, a small price for management to pay for higher performance.

For example, an Apollo program manager strongly advocated his idea of hatch design with the team. It was mostly his decision, but it was supported by the team, and was the major cause of the deaths of three men. He wanted to ensure that the hatch would stay sealed in the event of a pressure loss while in space. So he had it designed to seal from the inside. What no one considered was that if the pressure increased inside the spacecraft, the hatch could not be opened. When the fire occurred, the crew could not get it opened. To this day, I do not know if anyone raised this issue, but since the program manager was so determined, I suspect it was never brought up. Big Personalities should be open to comments and suggestions from their team to avoid this kind of disaster.

Fortunately for the Big Personalities in the Apollo program, we had news crews on our front lawns, ticker-tape parades, and even today, autograph seekers to gratify our egos. In your organization, however, Big Personalities may have to settle for a better parking spot and a bigger bonus check at the end of the fiscal year. But management has to get them there.

Col. Al Worden was Command Module Pilot of Apollo 15, and retains the record for the deepest space EVA, for which *The Guinness Book of World's Records* gave him the moniker, "The world's most isolated man. After retiring from NASA in 1975, Worden became President of Maris Worden Aerospace, Inc., and later was a Vice President of BF Goodrich Aerospace. He was Chairman of the Astronaut Scholarship Foundation until 2011 and since then has been speaking and writing about business and the space program. In 2011, Worden's memoir *Falling To Earth* made the top 12 of the *LA Times* Bestseller list.

Bill Penczak was a marketing consultant for the first 20 years of his career, advising national and regional consumer, retail, and B2B brands such as Dell, AT&T, and Motorola. Since 2005, he has held global and national marketing and sales leadership positions in professional services firms. They are collaborating on a book on this same topic to be published by Smithsonian Books in 2018.

For more information, visit ciWeekExperience.com

AL WORDEN WILL PRESENT AT THE DMACC WEST CAMPUS ON THURSDAY, MARCH 2 AT 11:30AM ON THE MAIN STAGE.

References

1. Efron, Louis. (2013, June 24). *Six Reasons Your Best Employees Quit You*. Retrieved from the *Forbes* website: www.forbes.com/sites/louisefron/2013/06/24/six-reasons-your-best-employees-quit you/#1ef7e76720a1

2. Long, Jonathan. (2015, November 23). *12 Reasons Entrepreneurs With Type-A Personalities Are Unstoppable*. Retrieved from the *Entrepreneur* website: www.entrepreneur.com/article/253089

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Sound mixing in film is the art of storytelling with sound. Everything we do is to facilitate the vision of the filmmaker and help the film's narrative, to heighten the intensity and dream, and to create a true cinematic experience for viewers. If you ever turn off the movie sound while watching, you'll quickly realize the impact and importance of sound in film. One of my biggest clients is director Michael Bay, who says sound is 50% of the experience of his films.

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Most people have no idea that when a movie is shot, the production mixer is there to record the dialogue of the actors—that's it. The greatest misconception I hear most often is the assumption that the sound is recorded at the time of filming. Not true. ALL the sounds are added in post-production. For example, all the sounds of a chase scene with cars speeding down the highway, skidding in and out of traffic with horns honking and sirens wailing, are added later. Guns firing with bullets whizzing by, ricochets, and bullet impact are all added later. Cars slamming into other cars with metal scrapes, vehicle impact, and glass shattering sounds are all added in post-production. Helicopters fly overhead in pursuit. More guns and bullets. The car crashes and explodes into flames. These sounds are all added in post-production create that sequence. You get the idea.

Adding sound to film is a three-stage process, the first of which is sound design and sound editorial. The second is the music recording, and the third is the rerecording of all the sound in the film. Dialogue, music, and sound effects includes foley [everyday sound effects], backgrounds, and what we call hard effects, such as guns and explosions. Sound editorial and design involves the creation and assembly of all background sounds, such as traffic, winds, birds, crickets, surf, and others. Hard effects include noises like jets, helicopters, cars, guns, explosions. The foley consists of the footsteps and small effects created by foley artists using various props, ranging from pots and pans to doorknobs and car fenders. It's incredible to see all the contraptions on a foley stage used to create sounds. The editorial team then puts the dialogue recorded on set in sync with the picture. They also spot the film with the director for additional dialogue replacement, or ADR, which might be requested because of the lack of intelligibility. They might also want to record alternate lines of dialogue for the scene. In addition, they record what's called group Wallas with actors who perform as background people in the movie (for instance, in a bar scene the general hubbub of people is recorded, as well as specific call outs). There might be a fight where people are yelling at the two actors, and that's all added later to control what is said when.

The composer writes the music for a film and works directly with the director to determine the tone of the film musically. Then he composes themes approved by the director. An orchestrator pens the music on paper for all the musicians who play various parts and instruments. Then a hired orchestra performs the music in a studio that fits upwards of 90 musicians, in some cases. The scoring mixer, a recording engineer hired to record all the music, will usually separate the various instruments for greater flexibility in the final mix of the film. For example, much of the time we request that we get "stems" from the scoring mixer of the all the music. We might separate the high violins from the low cello and basses. We might have a separate stem for the brass instruments such as trumpets, trombones, French horns, and tubas. Percussion stems might be broken down into high percussion, such as high register drums, and low percussion, with low register drums. We typically break down the entire orchestra, that way we have the most flexibility in the final mix

where we blend all sounds in the film together. The scoring mixer does a mix down in this stem form, so when played at an equal level, the balance between instruments can be heard. It's a great starting point for us during the final mix, but in many cases those levels and balances will change.

My job takes place during the rerecording process. I have spent many years as a scoring mixer recording music for film, as well as recording music for records and TV. My first passion was to make records. I was blessed to have a father who was a world-class musician and fostered my passion for music. Growing up, I spent many days in recording studios with my dad. Yet the most fascinating aspect of it for me was not the musicians playing, but the recording engineers at the console. I was amazed by the way they were able to change the quality of an instrument with the controls on a panel. For as long as I can remember, if I was in a room with a radio or stereo that had a bass and treble control, I was always trying to make it sound better.

I was exposed to some amazing musicians and recording engineers in my childhood, and for that I'm eternally grateful to my dad. He was an incredibly talented musician and producer, and his passion for music was second to none. When they say the apple doesn't fall far from the tree, I completely understand. Music will always be my first love, and creating a pristine recording was the ultimate gratification for me, especially in my early career. I had the privilege of studying with a world-renowned recording engineer, Bill Lazerus, at a studio in Hollywood called T.T.G. Recording Studios. I took his classes, and within six months the owner of that facility, Ami Hadani, offered me my first job in the industry in 1977.

USED WITH PERMISSION.

Incredibly excited to be there, I answered phones at night and helped the engineers do the setups for their sessions for the following day. Ami was very generous in allowing me to participate at a level most 18-or 19-year-olds would never experience. He recorded all the music at that time for some of the biggest TV shows in the late 70s; *Love Boat*, *Charlie's Angels, Hart to Hart, Vegas*, and the many Spelling-Goldberg productions. In addition, he did many motion picture scores like *Rocky*, recording such greats as Barbra Streisand, Frank Sinatra, and Ella Fitzgerald, to name a few.

I spent my first four years in the industry at that facility, at then received an offer to go to a brand-new facility in Burbank called Evergreen Studios. I continued as a recording engineer, working with such artists as Harry Nilsson, Ringo Star, Neil Diamond, Heart, Al Stewart, and many others.

In 1981 I saw a movie called *Raiders of the Lost Ark*, which had a profound impact on me. I was only mixing music at the time, but while watching that film I immediately became aware of the incredible sound in the movie. Remember that huge ball rolling right at Indiana Jones that you could feel in your chest? I could hear all of these sounds panning all around the theater and I thought, "Holy crap, some mixer did this!" He panned the sounds around the theater to create a unique experience. I remember thinking that if I ever got the chance to work in film, that would be incredibly cool.

Flash forward to 1983, when I got a call to work in a post facility, B & B Sound Studios, which worked primarily in TV and small films. I jumped at the opportunity and began reinventing myself as a rerecording mixer on what is called a Dub Stage.

That was a very different technical environment than what we have today. I started mixing on a console with about 36 faders, which are channel strips for audio. The console had level controls for volume; equalization, which controls bass and treble and even more frequencies in between; and pan pots, which allow sound to be steered from left to right. That was basically it. I was mixing most films in mono but it wasn't

long before we had a few requests to do films in stereo. We thought at the time this was awesome. Stereo in film back then meant the sound mixer had three channels across the screen: Left, Center, and Right, as well as a mono Surround channel. From 1983 to 1988, I worked on small, low budget films, including the original *Hairspray* directed by John Waters. I mixed 55 feature films before Don Rogers, the biggest name in sound in Hollywood who worked at Warner Bros. Studios, called after hearing nice things one of my clients said about me. I was very intimidated when Don said he wanted to meet.

Honored and flattered, I had trouble containing myself. Over lunch, he said he wanted me to meet a fellow mixer with a great reputation named Bob Litt. I felt like a baseball player in the minor leagues getting called up to the majors.

I soon became Bob Litt's full-time music mixer on Stage A at the renowned Warner-Hollywood Studios, where the all-inspiring film *Raiders of the Lost Ark* was mixed. In fact, the same mixers from that film were still working there. My first film with that studio was *Tequila Sunrise*, shot in 1988 and directed by Oscar-winning screenwriter Robert Towne, starring Mel Gibson, Michelle Pfeiffer, and Kurt Russell. What an honor it was to be on a stage filled with Oscar-nominated talent and Oscar winners like Claire Simpson, the film editor who won for *Platoon* in 1986. Kay Rose, our supervising sound editor, won her Oscar for *The River.* Composer Dave Grusin and Oscar-winning cinematographer Conrad Hall also worked on the film. As a 29-year-old mixer recruited to the "A" film scene, I found this a bit intimidating yet totally AWESOME.

Just a year later I received my first Academy Award nomination for *Black Rain*, directed by Ridley Scott. One of my most surreal experiences was getting a call at 5:45am from Don Rogers congratulating me. Holy cow.

Since then I have been blessed to work with some of the most talented sound mixers and most prolific filmmakers of our time: Michael Bay, Sam Raimi, Ron Howard, Tony Scott, Ridley Scott, Sam Mendes, James L. Brooks, Phillip Noyce, William Friedkin, Tim Burton, Kathyrn Bigelow, Barry Sonnenfeld, Barbara Streisand, Mel Gibson, Rob Marshall, Gabrielle Muccino, Jon Turteltaub, Rob Reiner, Carl Reiner, Paul Verhoeven, Diane Keaton, Adrian Lyne, Roland Emmerich, Martin Campbell, Bryan Singer, Jonathan Mostow, Richard Donner, John Avildsen, Herbert Ross, Harold Becker, Jonathan Lynn, Robert Towne, John Waters, Michel Gondry, Simon West, Ron Underwood, Dominic Sena, Lawrence Kasden, and Nicholas Meyer, among others.

Technology has changed quite a bit since then. We have gone from manual consoles, where every change and adjustment had to be made live, to the fully-automated consoles of today. Automated consoles remember all of the various sound changes, such as volume placement on the screen, or reverb added to create a dreamy sensation, as they occur. For instance, the sound mixer can first set the proper volume level and record it in the console automation. Once recorded, it will play that setting back every time I play through that section. Then I can pan the sound where I want it on the screen and record that. Next, I add my reverb and record to that. In essence, I'm able to build the mix one move at a time, a very different process from how it was done in the past, which seemed more like a live performance between three mixers on a console.

Since automation has been in play, we typically use two rerecording mixers on a film. One handles all the dialogue and music on the film, while the other mixer handles all the sound effects including backgrounds, hard effect, and foley.

I have actually mixed an entire film alone with the power of computers. During this process, the rerecording mixers take all the tracks recorded and prepared by the sound editorial teams from the production mixers dialogue on set, and all the added ADR recorded, including the group walla. The dialogue rerecording mixer goes through every track and adjusts all the volume levels. During the shoot there might be big fans to create a look, but then the sound quality is noisy. We have tools to reduce

It's not until all the sound work is in the movie that it feels alive ...

and even remove the noise to try and save the take. So each track needs some love, as we call it, so the dialogue is consistent and listeners can understand all the words. This is called dialogue pre-dubbing, where we prep all of the dialogue tracks for the final mix.

The same process happens for all the background tracks for the ambience in the film. Our editors build these tracks in what I call "food groups." We separate all the traffic tracks from the airs and winds, the birds and bugs, crowds and FX Wallas. Again, we level and balance every track for the desired balance. When you hear them all together, it sounds like you're right there in that scene. If we're in the jungle, all the sounds in that environment—air and wind through trees, insects and off-stage birds and animals—have to be placed in different channels throughout the theater. All of this is done to create the sense that the listener/viewer is standing right in the middle of the jungle.

We do the same for all the hard effects such as guns, cars, and planes. When a helicopter flies right over camera and over the heads of the audience, what makes that feel real is the sound traveling from the front speakers of the theater to the surround speakers behind you.

Now we actually have a sound format called Dolby Atmos, which has speakers in the ceiling. Sound literally moves through the ceiling speakers, where it sounds exactly like it flew over the audience. This is all a part of the pre-dubbing process that happens before the final mix, and can take a couple of weeks to several months, depending on the complexity of the film. (A romantic comedy doesn't require the time a big action film like a *Transformers* movie needs.)

Once pre-dubbing is complete, the director, producers, and the film editor meet with us as we start balancing all the elements of the film. The film is broken down into what we call reels, each usually between 12 and 20 minutes of film. A standard film would fit on six reels, while a lengthy film is typically eight reels. We work on it on a reel-by-reel basis to balance dialogue, music, and effect.

Sometimes a music cue doesn't work in a scene, and the music editor either tries to find an alternate from another place in the film, or we lose the cue and play the scene with dialogue and effects. The director might want to lose all sound to create a stylized moment, so we turn off all sound effects and dialogue and just play the music. These are some of the creative decisions made during the final mix, after thousands of creative decisions have already been made during pre-dubbing.

After a reel is finished, we usually play it back for everyone involved and take notes. Next, we review the notes and make the necessary changes. We might write, "Raise the music after the explosion," "Can't understand the dialogue during the fight scene," or "Raise the gunshot just after the door close." We do this for every reel of the film, before a complete playback of the entire movie. Again the note pads come out and a note-taking session takes place; we again make the necessary changes to improve the film. This final playback process can happen more than once. In the case of director Sam Mendes on the film *Skyfall*, he likes to do three complete playbacks of the film with notes and then he's done.

Greg Russell is one of the most respected sound engineers in the film industry. He has worked on numerous TV shows and more than 200 films, such as the *Transformers* series, *RoboCop*, *Skyfall*, *The Green Hornet*, *Salt*, *Spider-Man*, *National Treasure* and *The DaVinci Code*. Russell has been nominated for 17 Academy Awards in the category of Best Sound and won a Daytime Emmy for Outstanding Film Sound Mixing in 1984.

For more information, visit ciWeekExperience.com

GREG RUSSELL WILL PRESENT AT THE DMACC WEST CAMPUS ON WEDNESDAY, MARCH 1 AT 11:30AM ON THE MAIN STAGE.

One of the most gratifying aspects of my job is not just creating an enjoyable cinematic experience for the audience, but to watch a filmmaker who might have spent the last two to three years making the film. It's not until all the sound work is in the movie that it feels alive, and it's so great to see the expression on the directors' faces when they see that their movies are better than they ever imagined they could be. That's when I feel most satisfied. It's also why these filmmakers keep coming back, film after film.

Since watching *Raider of the Lost Ark* in 1981, and starting in the film industry in 1983, I have been mixing films for more than 33 years now, with more than 200 feature films credits and 16 Oscar nominations. I have collaborated with Michael Bay since *The Rock* in 1996, and I'm currently working on his latest film *Transformers: The Last Knight*, the most recent film of the franchise. So here's to 20 years together and still going strong. I'm still as passionate about mixing films as ever. To do something I love to do and make a good living at it is truly a gift.

That is my hope for all: To find what you're passionate about and make that your line of work, so that every day you wake up looking forward to a job you love.

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SOME AMERICAN HISTORY

From a Writer Who Likes to Tell Stories, Especially True Ones

BY JOY HAKIM

We're in the same boat, brother

And if you shake one end

You're going to rock the other

It's the same boat, brother.

THE UNITED STATES CONSTITUTION. COURTESY NATIONAL ARCHIVES.

Huddie Ledbetter, better known as Leadbelly, sang those words in the 1960s. He inspired—among others—a young Bob Dylan who, like a generation of folk singers, challenged his listeners through his lyrics. Here's Dylan in 1963:

> *The country I come from*
> *Is called the Midwest.*
> *I's taught and brought up there*
> *The laws to abide*
> *And that the land that I live in*
> *Has God on its side . . .*
>
> *But now we've got weapons*
> *Of chemical dust -*
> *If fire them we're forced to*
> *Then fire them we must . . .*
> *And you never ask questions*
> *When God's on your side. . . .*

Today, more than half a century later, Bob Dylan has been awarded a Nobel Prize for his poetry, and we've just weathered an incredibly divisive election season. But we're all still in the same boat, brother, which we would do well to remember, especially after the recent contentious presidential race, which happens to be part of an American tradition.

Could common people be trusted as decision-makers?

The first of our acrimonious elections came early, but before we go there, let's start at our founding birthday, July 4, 1776. Some British citizens sailed from the mother country across the Atlantic, determined to form their own nation with the idea of giving power to the people. Could common people be trusted as decision-makers? Many in England, and some in the new states, didn't think so. The fledgling United States seemed an interesting experiment with little chance for long-term success.

But we were lucky; some brilliant minds turned up for the process of founding the nation, which included the writing of its Constitution and its Bill of Rights. Whatever their diverse backgrounds, the Founders seemed to understand that they were doing something never done before. For the most part, especially at first, they set aside their differences and worked for the greater good of the new nation, a pattern that would continue and set an important precedent.

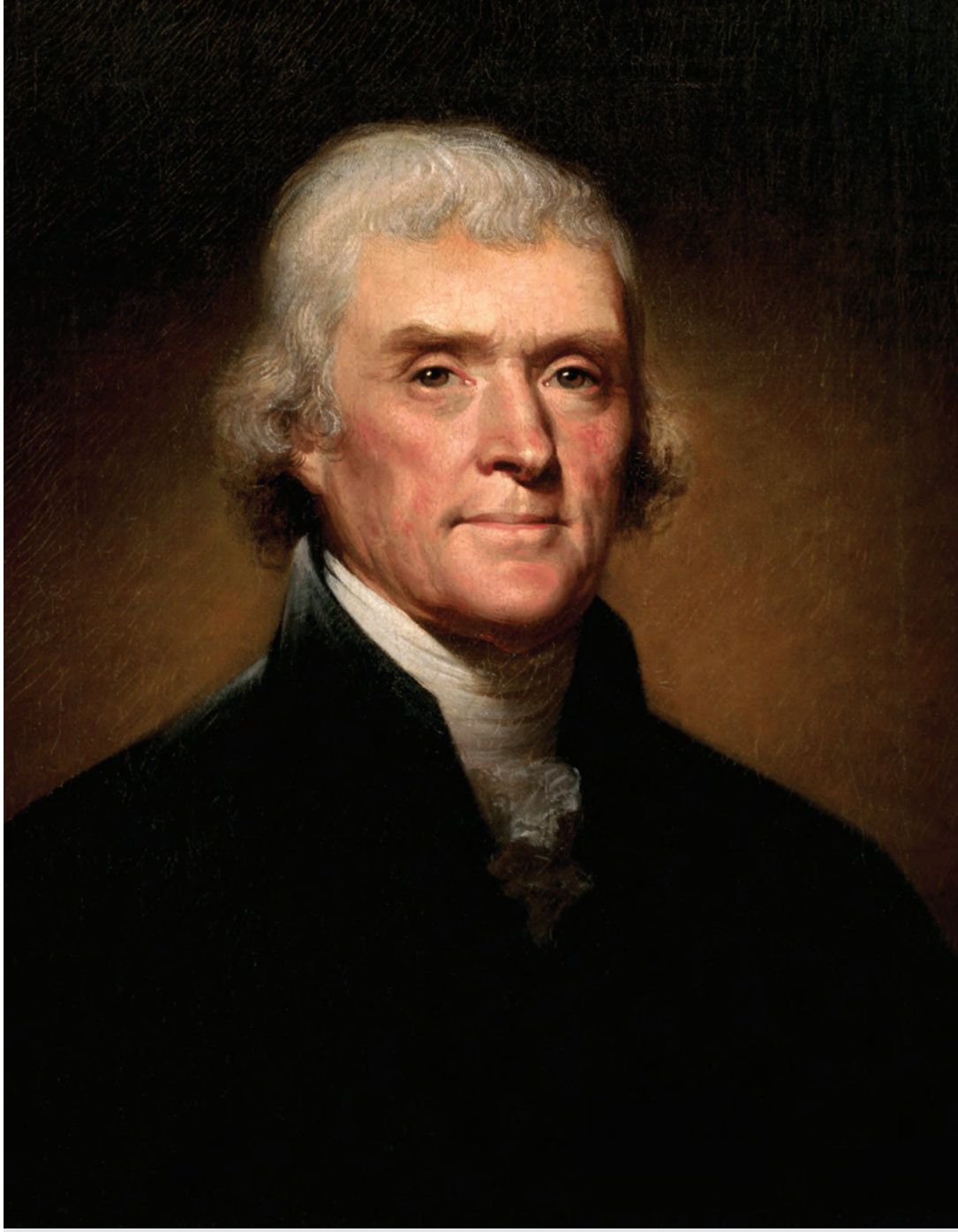
Twenty-four years after Jefferson's inspiring (and some would say uppity) Declaration telling King George III that we didn't need him as our sovereign anymore, the king wasn't about to let us go free; we would have to go to war to get our way, which we did. Not long after that, some American farmers, having helped defeat the greatest power in the world (the British Empire),

took up arms and rebelled against the new state governments (especially in Massachusetts). They didn't much like authorities of any kind. Crops had failed, there was an economic downturn, and the state governments were asking for tax payments. Shay's Rebellion (the name given to the protest), made the state governments realize they needed a strong central government for support and stability.

They, and others, called for a convention with the purpose of writing a constitution for the new nation with more power and structure than the ruling Articles of Confederation. An elegant and inspired work, the new Constitution was built on the idea that power should be divided between state governments and an empowered central government. An executive (the President), a legislature (Congress), and a judicial branch (a Supreme Court, a work in progress) were intended to check and balance each other. In addition, having state governments and a national government would bring another kind of balance to the nation.

It was founded as a Republic, a state in which supreme power is held by the people and their elected representatives, with an elected president rather than a monarch, which is what Ben Franklin told Philadelphia's Mrs. Powel, when she asked, "Well, Doctor, what have we got, a republic or a monarchy?" Franklin's response was, "A republic, if you can keep it." And that's been among the challenges since 1789, when the former British colonists inaugurated their first president.

George Washington would take the oath of office in the new nation's capital, then in New York City. Rudolph Von Dorsten, a member of a Dutch delegation, offered an eye-witness account:



A PAINTING OF THOMAS JEFFERSON BY REMBRANDT PEALE IN 1800. COURTESY NATIONAL ARCHIVES.

President George Washington made his entry into New York on Thursday, April 23rd, 1789. On the previous day a barge left this city. The barge was built expressly by the citizens of New York, and was rowed by thirteen pilots, all dressed in white. A committee of three Senators and five Representatives on behalf of Congress . . . went to Elizabethtown in New Jersey to welcome the President, and to await his arrival there. His Excellency was also accompanied by some well-equipped sloops and by a multitude of small craft with citizens of New Jersey and New York on board.

A Spanish royal packet-boat, happening to be anchored at the entrance of the harbor . . . fired a signal-shot, whereupon that vessel was dressed at once with the flags of all nations. When the presidential barge passed, the

Spanish vessel saluted his Excellency by firing thirteen guns . . . His Excellency was received by Governor George Clinton, the mayor of the city and other officers and, after a procession had formed consisting of some companies of uniformed citizens and merchants and other citizens of the city, the President walked with his escort and, Governor Clinton at his side, to the house prepared by Congress for his use.

Our first truly contentious (and often mean-spirited) election came in 1800; many were sure it signaled the end of the American experiment.

Wanting the President to be a citizen, not an emperor (and more-than ready to return to Mt. Vernon), Washington served two terms, declining a third. His vice president, John Adams, was easily elected as the second President. But Adams riled many in the founding generation when he put on what seemed like regal airs and when Congress passed Alien and Sedition Acts, which he approved.

Our first truly contentious (and often mean-spirited) election came in 1800; many were sure it signaled the end of the American experiment.

By that time, our nation had something that no one had predicted: political parties. Washington hated the concept. But people come in varieties, and conservative and liberal seem to be two of them. In the founding era, the conservatives were Federalists (George Washington, John Adams, Alexander Hamilton). The liberals were known (then) as Republicans, or Democratic Republicans (Thomas Jefferson, James Madison).

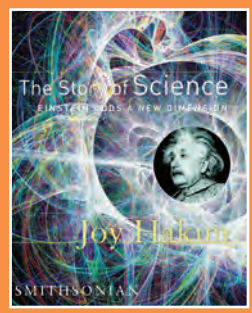
The Federalists were wary of democracy and wanted to limit voting rights to the educated and prosperous; call them elitists and you won't be wrong. In contrast, the Jeffersonians believed in widespread suffrage (although they weren't ready for women to vote and certainly not people of color). They wanted strong state governments and less power for the central government. The Federalists wanted the opposite.

The election of 1800 (the nation's fourth) pitted vice-president Thomas Jefferson against president John Adams with immigration as a major issue. Substantial numbers of immigrants, many attracted by the inspiring words of the Declaration of Independence, were beginning to come to the United States. The Democratic Republicans wanted to widen the new nation's doors. The Federalists were wary of newcomers. Then there was concern about France where a freedom revolution had turned into a killing spree. Jefferson was seen as a Francophile, Adams was not.

Many of these same issues are still being argued today. At the time, it got intense and nasty; Alexander Hamilton was killed as a result. So if you're worried about this year's election, read up on 1800. And read the healing, and precedent-setting, words of Jefferson in his inaugural speech, "Every difference of opinion is not a difference of principle." He added, "We are all Republicans, we are all Federalists."

What's to be learned from all of this? As I tell my young readers, we need liberals; we need conservatives. Most important, we need to respect each other.

We're in the same boat, brother.



Schoolteacher turned author Joy Hakim has published texts since 1993 that have helped to educate and inspire students in classrooms across the country. Her 10-volume *A History of US* was produced as a 16-part TV series by PBS and earned her the first James A. Michener Award for Writing, presented by the National Council for Social Studies. Hakim then took on a different subject with *The Story of Science* series, in three volumes (*Aristotle Leads the Way*, *Newton at the Center* and *Einstein Adds a New Dimension*). Each breaks down scientific concepts in a way that s fascinating for young learners.

For more information, visit ciWeekExperience.com

JOY HAKIM WILL PRESENT AT THE DMACC WEST CAMPUS ON TUESDAY, FEBRUARY 28 AT 6:00PM ON THE MAIN STAGE.

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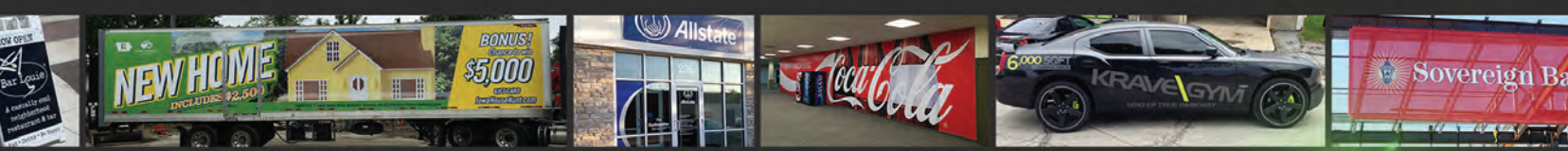

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WELCOME TO ciWEEK 8!

INSPIRATION: A DAILY VOYAGE

Forty years ago, twin Voyager spacecraft rocketed out of Earth's gravity, taking advantage of a rare planetary alignment that allowed for a single trajectory to explore our solar system's gas giants: Jupiter, Saturn, Uranus, and Neptune. When NASA first launched both Voyager 1 and 2, no one knew how long they would last, especially the designers at the Jet Propulsion Laboratory (JPL) in California. Yet Voyager 1 has now left our solar system, plugging along 13 billion miles away in interstellar space.

If you happened to see the recent movie, *Hidden Figures*, you know that a large group of women, known as "computers," did most of NASA's required math for early U.S. space exploration, including Voyager. They did it first by hand (yes, using only their brains) and later through programming an IBM computer. One of these female pioneers who worked on Voyager's trajectory, Barbara Paulson, now lives here in the Des Moines metro, and I had the privilege to talk with her.

Barbara isn't quite what I expected for a woman who began her career at JPL in 1948 making 90¢ an hour as a "computer." She was full of life, passionate about her work, and sharp as a tack. While the book and movie *Hidden Figures* have received more notoriety following the women who worked on NASA's Mercury Program, Barbara's life and career are featured in another book, *The Rise of the Rocket Girls*, which follows their work at JPL and their work on the first U.S. satellite, Explorer 1 (which was America's response to the Soviet Union's Sputnik), and many of NASA's deep space probes including Voyager.

Most surprising, though, was how Barbara's inspiration related to space exploration hasn't diminished since her first day on the job. And the more we talked, the more I became inspired to learn about her amazing life and career.

The purpose of Celebrate! Innovation Week is the same...to inspire through the amazing stories of others. Now in our 8th year, ciWeek includes a diverse line-up of speakers and presenters whose stories are sure to inspire most anyone, regardless of age, gender, race, or background. These people have all pushed the bar forward in an attempt to go to "The Nth Degree," whether through exploration, science, technology, extreme sports, writing, music, or the arts.

I'd like to encourage you, while attending ciWeek 8, to spend some time looking at the new exhibits, especially the ciWeek Hall of Fame. ciWeek is unique to higher education in that both students and the community get to participate, free of charge, thanks to the generous contributions of our sponsors. This exhibit reveals the history of the event, including the growing list of incredible people who have been willing to brave Iowa winters in order to participate.

One of them, Eugene Cernan, Apollo 10 and 17 astronaut and the last man to walk on the Moon, recently passed away in January 2017. Gene graciously participated in ciWeek 5 in 2014 and was an inspiration to all who were lucky enough to hear him speak. I was also fortunate to gain a new friend, one who would inspire me for the rest of my life. Thank you, Gene, and Godspeed.

ciWeek 8 offers something for everyone. I hope the stories told over the next few days serve as an inspiring force and make a difference in the lives of all who attend.

DR. ANTHONY D. PAUSTIAN
PROVOST, DMACC WEST CAMPUS

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ciWEEK 2017 AT A GLANCE

All events held at Des Moines Area Community College West Campus, 5959 Grand Avenue, West Des Moines, Iowa.

MONDAY, FEBRUARY 27, 2017

KICK-OFF EVENTS

6:00PM — **MAIN STAGE**

KEYNOTE SPEAKER: **DR. ANTHONY PAUSTIAN**
Founder of ciWeek, Author and Educator
Bio on page 38

TUESDAY, FEBRUARY 28, 2017

KICK-OFF EVENTS

6:00PM — **MAIN STAGE**

KEYNOTE SPEAKER: **JOY HAKIM**
Historian and Author
Bio on page 38

WEDNESDAY, MARCH 1, 2017

8:45AM — **ROOM 118E**

FEATURED SPEAKER: **ADAM STEEN**
"Live with Purpose, Unlock Your Potential, and Change the World"
Bio on page 44

8:45AM — **AUDITORIUM**

FEATURED SPEAKER : **BRIAN NELSON**
"The New Equation of Value: How Individuals and Businesses Can Leverage Emerging Technologies to Become Exponentially More Valuable"
Bio on page 44

10:00AM — **MAIN STAGE**

KEYNOTE SPEAKER: **KAILA MULLADY**
Beatbox Champion and Artist
Bio on page 38

11:30AM — **MAIN STAGE**

KEYNOTE SPEAKER: **GREG RUSSELL**
Oscar-Nominated Sound Engineer
Bio on page 39

12:45PM

LUNCH BREAK

1:30PM — **MAIN STAGE**

KEYNOTE SPEAKER: **KEN MATTINGLY**
Astronaut 16 and Aerospace Innovator
Bio on page 39

6:00PM — **MAIN STAGE**

KEYNOTE SPEAKER: **DAN GABLE**
Olympic Gold Medalist and University of Iowa Wrestling Coach
Bio on page 39

THURSDAY, MARCH 2, 2017

8:45A **ROOM 118E**

FEATURED SPEAKER: **ADAM CARROLL**
"Do You Need More Money to Be Innovative?"
Bio on page 45

8:45AM **AUDITORIUM**

FEATURED SPEAKER: **JEFFREY MAKOWKA**
"How Can We Disrupt Aging?"
Bio on page 45

10:00AM **MAIN STAGE**

KEYNOTE SPEAKER: **MAX BROOKS**
Best-Selling Author and "Zombie Expert"
Bio on page 40

11:30AM **MAIN STAGE**

KEYNOTE CONVERSATION: **AL WORDEN**
Astronaut 15 and Aerospace Engineer
Bio on page 40

12:45PM

LUNCH BREAK

1:30PM **MAIN STAGE**

KEYNOTE SPEAKER: **KEVIN JORGESON**
World-Renowned Rock Climber
Bio on page 40

FRIDAY, MARCH 4, 2016

HIGH SCHOOL DAY

9:00AM OPENING **MAIN STAGE**

WELCOME: **DR. ANTHONY PAUSTIAN**
Founder of ciWeek, Author and Educator
Bio on page 38

9:15AM **MAIN STAGE**

KEYNOTE CONVERSATION: **AL WORDEN**
Astronaut 15 and Aerospace Engineer
Bio on page 41

10:30AM

CONCURRENT SESSIONS

12:00PM

CLOSING

12:30PM

LUNCH AND DISMISSAL

KEYNOTE SPEAKERS

DR. ANTHONY PAUSTIAN

FOUNDER OF ciWEEK, AUTHOR AND EDUCATOR

MAIN STAGE | MONDAY, FEBRUARY 27 | 6:00PM

As the Provost of DMACC West, Dr. Anthony Paustian created a technology-focused college campus from scratch. He founded Celebrate! Innovation Week in 2010 and is the author of *Imagine!*, *Beware the Purple People Eaters*, and his new book, *A Quarter-Million Steps: Creativity, Imagination & Leading Transformative Change.*

Twitter: @AnthonyPaustian

JOY HAKIM

HISTORIAN AND AUTHOR

MAIN STAGE | TUESDAY, FEBRUARY 28 | 6:00PM

Schoolteacher turned author Joy Hakim has published texts since 1993 that have helped to educate and inspire students in classrooms across the country. Her 10-volume *A History of US* was produced as a 16-part TV series by PBS and earned her the first James A. Michener Award for Writing, presented by the National Council for Social Studies. Hakim then took on a different subject with *The Story of Science* series, in three volumes (*Aristotle Leads the Way*, *Newton at the Center* and *Einstein Adds a New Dimension*), which break scientific concepts down in a way that's fascinating for young learners.

KAILA MULLADY

BEATBOX CHAMPION AND ARTIST

MAIN STAGE | WEDNESDAY, MARCH 1 | 10:00AM

Catch beatboxer and multi-instrumentalist Kaila Mullady in action, and you're in for a one-of-a-kind, artistic performance that fuses beatboxing with poetry, rap, singing and theater. She's the 2015 World Beatbox Champion among other well-deserved national competition titles. Based in NYC, Mullady teaches creative workshops across the country.

Twitter: @kailamullady

GREG RUSSELL

OSCAR-NOMINATED SOUND ENGINEER

MAIN STAGE | WEDNESDAY, MARCH 1 | 11:30AM

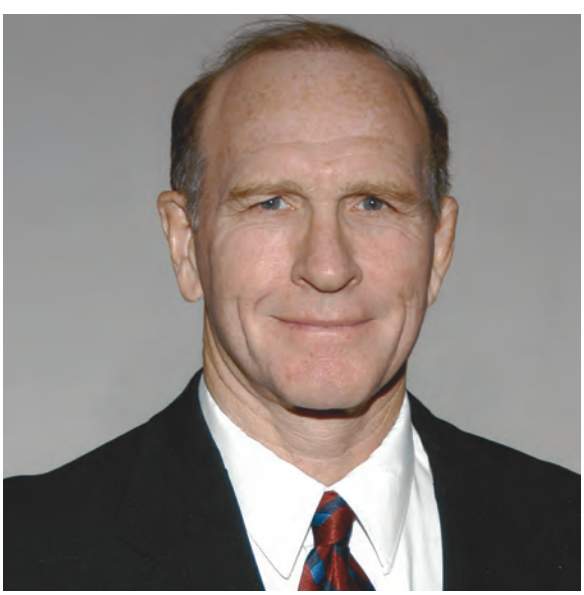
Greg Russell is one of the most respected sound engineers in the film industry. He has worked on more than 200 films and numerous TV shows such as the *Transformers* series, *RoboCop*, *Skyfall*, *The Green Hornet*, *Salt*, *Spider-Man*, *National Treasure* and *The DaVinci Code*. Russell has been nominated for 17 Academy Awards in the category of Best Sound and won a Daytime Emmy for Outstanding Film Sound Mixing in 1984.

KEN MATTINGLY

ASTRONAUT 16 AND AEROSPACE INNOVATOR

MAIN STAGE | WEDNESDAY, MARCH 1 | 1:30PM

Ken Mattingly is not just an astronaut—he served as Command Module Pilot for Apollo 16 to Earth's moon—he's also an innovative engineer, responsible for the development of the lunar backpack and space suit. Mattingly's leadership qualified him as Commander for the final orbital test flight of the Space Shuttle Columbia STS 4 and the first classified Department of Defense Space Shuttle mission. Mattingly was played by Gary Sinise in the movie, *Apollo 13*.



DAN GABLE

OLYMPIC GOLD MEDALIST AND UNIVERSITY OF IOWA WRESTLING HEAD COACH

MAIN STAGE | WEDNESDAY, MARCH 1 | 6:00PM

A native Iowan, Gable achieved an unprecedented wrestling career with highlights to include a prep and collegiate collective record of 182–1 and a 1972 Olympic gold medal among many other national and world wins. Gable isn't just a champion athlete himself. As a successful coach, he has personally inspired hundreds of the athletes to achieve their best. As head wrestling coach at the University of Iowa, he led his team to 15 NCAA team titles. Gable also served as the Olympic head coach three times, and was a six-time World Team head coach. Gable made the list of ESPN's Top 10 Coaches of All Time.

Twitter: @dannygable

KEYNOTE SPEAKERS

MAX BROOKS

BEST-SELLING AUTHOR OF *WORLD WAR X* AND "ZOMBIE EXPERT"

MAIN STAGE | THURSDAY, MARCH 2 | 10:00AM

The New York Times best-selling author Max Brooks has sparked readers to discuss how to better prepare for crises and discover solutions around emergency responses in an unconventional way . . . through zombie-themed fiction. His books, *The Zombie Survival Guide*, *World War Z: An Oral History of the Zombie War* and *The Zombie Survival Guide: Recorded Attacks*, have established Brooks as a "zombie expert" and propelled the zombie trend forward in pop culture.

AL WORDEN

ASTRONAUT 15 AND AEROSPACE ENGINEER

MAIN STAGE | THURSDAY, MARCH 2 | 11:30AM

During his 1971 mission as Command Module Pilot on Apollo 15, Al Worden was an Air Force test pilot who became a two-time world record-holding astronaut for the first spacewalk in deep space and for being the most isolated human being ever. He is also in the small club of 24 people to have ever been to Earth's moon.

KEVIN JORGESON

WORLD-RENOWNED ROCK CLIMBER

MAIN STAGE | THURSDAY, MARCH 2 | 1:30PM

In January 2015, Kevin Jorgeson stood atop El Capitan to mark the completion of a successful 19-day free-climb up the Dawn Wall of the Yosemite National Park 3,000-foot tall rock formation, one of the hardest rock climbs ever completed. The success was more than six years in the making as Jorgeson, along with climbing partner Tommy Caldwell, prepared, planned and imagined their way to the top of a dream that everyone else thought was impossible.

Twitter: @kjorgeson

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ADAM STEEN

LIVE WITH PURPOSE, UNLOCK YOUR POTENTIAL, AND CHANGE THE WORLD

WEDNESDAY, MARCH 1 | 8:45AM | ROOM 118E

Adam Steen is the Relationship Manager at Liberty National Bank in Johnston, IA, and is owner of 25 Connections, a niche consulting practice within the state of Iowa. His consulting work has accelerated the growth of hundreds of businesses in a wide range of industries. Most recently, Adam was integral in forming a business that has been recognized as the most innovative hunting product company the outdoor industry has seen in years. His efforts have helped an entrepreneur realize a dream and take an invention from a garage to the shelves of retail stores all across the country.

BRIAN NELSON

THE NEW EQUATION OF VALUE: HOW INDIVIDUALS AND BUSINESSES CAN LEVERAGE EMERGING TECHNOLOGIES TO BECOME EXPONENTIALLY MORE VALUABLE

WEDNESDAY, MARCH 1 | 8:45AM | AUDITORIUM

Brian Nelson is the founder of ExTech Ventures, an organization that helps exponential technology entrepreneurs launch world-changing products and services. Before launching ExTech Ventures, Brian founded Experiential VR, a virtual reality marketing company and co-founded Sig3, a security product for Bitcoin wallets. As a recognized figure in the Bitcoin and blockchain technology ecosystem, he has consulted with many of the top digital currency companies, spoken at numerous industry events and was one of 40 industry insiders invited to attend the Blockchain Summit with Richard Branson on Necker Island. Brian's mission is to inspire, educate, and empower individuals and organizations to leverage emerging technologies to become exponentially more valuable to the world.

ADAM CARROLL

DO YOU NEED MONEY TO BE INNOVATIVE?

THURSDAY, MARCH 2 | 8:45AM | ROOM 118E

Adam Carroll is one of the foremost personal finance experts in the country. He is the creator of the student loan documentary *Broke, Busted & Disgusted* currently airing on CNBC (and being used in high schools and colleges across the country). His book *The Money Savvy Student* was recently named the #1 book on money your teens will actually read by *Money Magazine*, and his *TEDx* talk from the London Business School has been viewed nearly a million times on YouTube. Adam has been a featured speaker about financial literacy at more than 800 national events and much of his written work can be found at www.MoneySavvy.com.

JEFFREY MAKOWKA

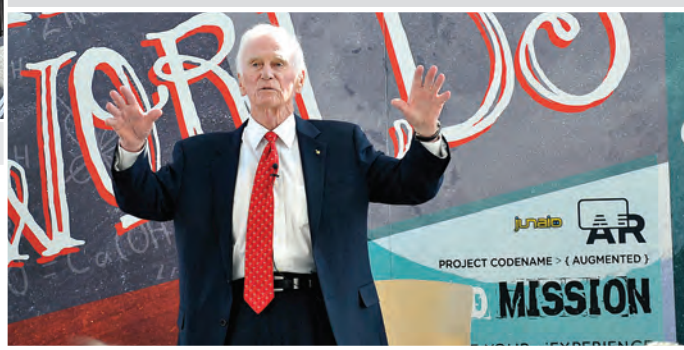
HOW CAN WE "DISRUPT AGING"?

THURSDAY, MARCH 2 | 8:45AM | AUDITORIUM

Jeffrey Makowka has more than 15 years' experience in strategic consulting and market research. The majority of that time he has focused on the needs of individuals over the age of 50, both domestically and internationally. As the Director in AARP's Market Innovation group, Jeffrey helped launch, and now manages, the Innovation@50+ initiative, which aims to spark entrepreneurial activity and innovation across public and private sectors. Anchored by the AARP social mission—to enhance the quality of life for all as we age—the program enlists the expertise of visionary thinkers, entrepreneurs, the investment community, industry, and not-for-profits to spur innovation to meet the needs and wants of people over 50.

ACTOR AND DIRECTOR LEVAR BURTON OF *STAR TREK* FAME SPEAKS WITH DR. ANTHONY PAUSTIAN DURING CIWEEK 6.

STEVE WOZNIAK, CO-FOUNDER OF APPLE, SPEAKS DURING CIWEEK 3.



CAPT. GENE CERNAN, THE LAST MAN TO WALK ON THE MOON, SPEAKS AT CIWEEK 5.

DAYMOND JOHN, SHARK ON ABC'S *SHARK TANK*, SPEAKS AT CIWEEK 4.

KARI BYRON ANSWERING QUESTIONS DURING CIWEEK 7.

If you can dream it, you can do it.

ciWeek (Celebrate! Innovation™ Week) provides central Iowans an opportunity to engage with people (some famous, all inspired) who dream, create and accomplish. It's a thought-provoking, interactive, and inspiring week hosted each year by DMACC at its West Des Moines Campus. People of all ages listen, absorb, and engage with creators of new ideas and the latest innovations.

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Twice annually, as part of the Celebrate! Innovation Exhibition, the West Campus publishes *ciMagazine*. The magazine provides insightful pieces written by a variety of people who are involved in activities that make the world a better place. Whether it's a piece written by one of our ciWeek speakers or a local thought leader, *ciMagazine* will provide readers with an inspiring view of the world.

To begin receiving the magazine or to view back issues, please visit ciWeekExperience.com.

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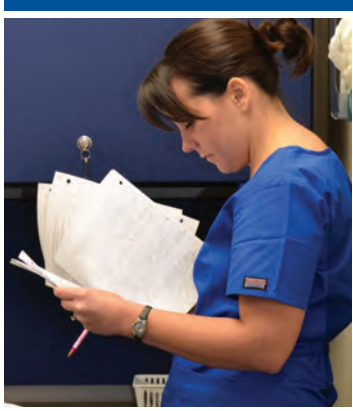

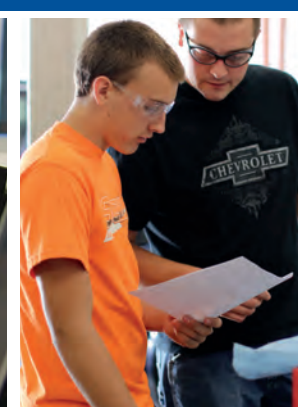

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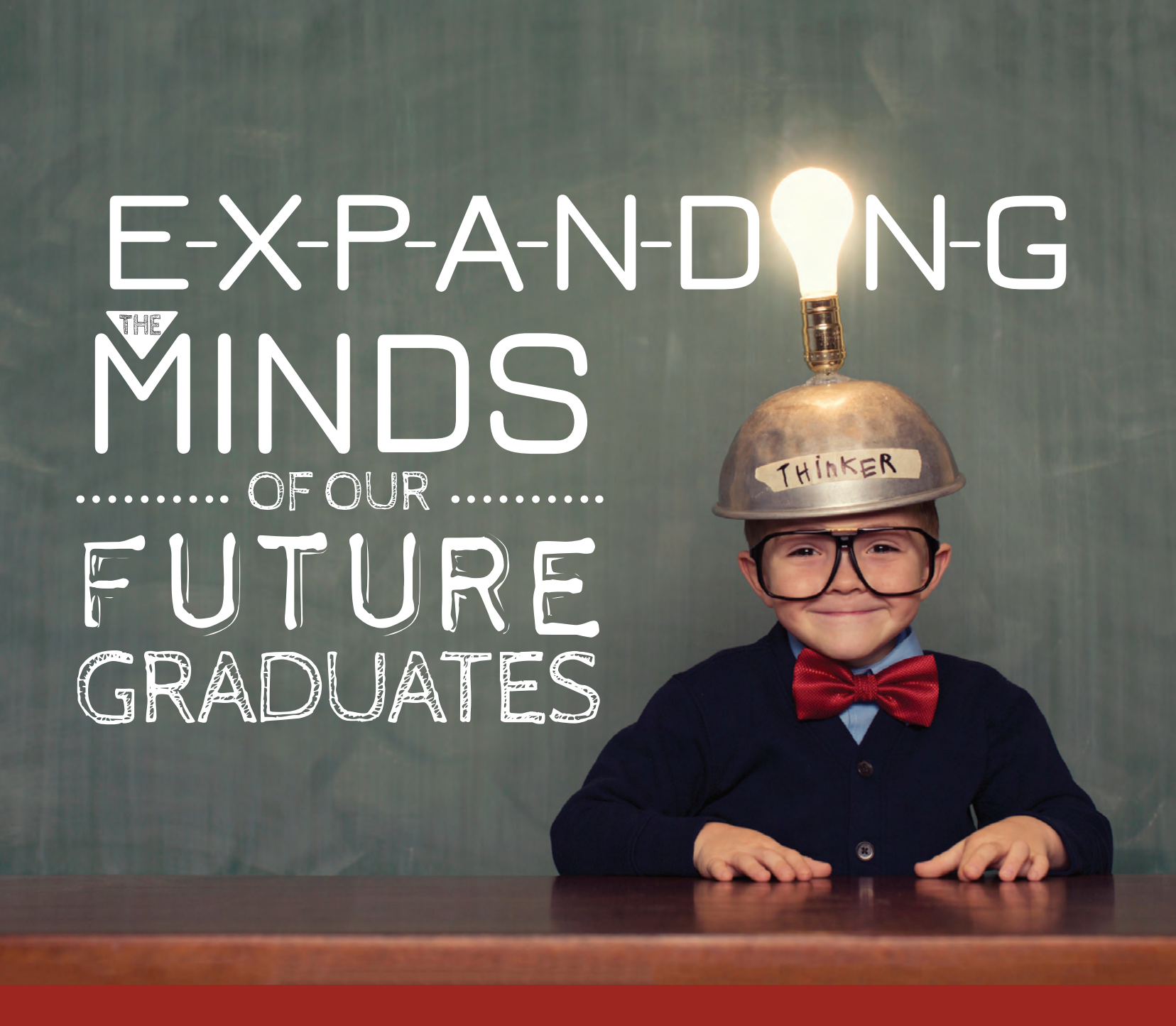

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