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THE POWER OF STORIES IN ORGANIZATIONS

Edward J. Hoffman, Matthew Kohut, and Laurence Prusak

It was a brisk 36 degrees on January 28, 1986, at the Kennedy Space Center in Florida as NASA's launch team began the final countdown to send the space shuttle *Challenger* into orbit at 11:38 a.m. The launch had been scheduled for the previous day, but it was scrubbed due to high winds. *Challenger*'s crew of seven included Christa McAuliffe, a schoolteacher from New Hampshire who had been selected to serve as the first citizen passenger on a space shuttle mission. Interest in the McAuliffe story had led to a huge wave of publicity, with CNN providing live coverage of the flight. Seventy-three seconds after launch, the shuttle burst into flames, killing the crew instantly and leaving a trail of white vapor that disintegrated slowly into the blue sky. That indelible image shocked a nation accustomed to routine success from its space program. The *Challenger* accident and its aftermath shook NASA to its core.

The failure of a seal on *Challenger*'s solid rocket boosters, which initiated a sudden series of events resulting in the loss of the shuttle and its crew, did not surprise engineers who had cautioned NASA officials just a day earlier against launching at such cold temperatures. Several previous shuttle flights had experienced problems with the solid rocket booster's O-rings failing to seal properly. The night before the launch, Roger Boisjoly, an engineer at Morton Thiokol, the manufacturer of the solid rocket boosters, had argued forcefully in telephone meetings with leaders from NASA and his own company against launching at temperatures below 53 degrees. Boisjoly had written a memo six months earlier warning of the consequences of an O-ring failure: "The result would be a catastrophe of the highest order–loss of human life."[1]

The *Challenger* disaster proved to be a pivotal moment for NASA. The stunning success of Apollo was replaced with a new story: NASA had gone from an elite organization that could do the impossible to a routine one plagued by bureaucracy.

The Presidential Commission on the Space Shuttle Challenger Accident (also known as the Rogers Commission) blasted NASA and outlined major recommendations for the agency before a return to flight. NASA's leadership responded by committing to significant actions. Phil Culbertson, a senior NASA executive, said, "We're going to reexamine our management thoroughly ... and I suspect we will make some fundamental changes."[2] But the changes demanded by the commission and implemented by NASA did not fully address the problems that *Challenger* had exposed. In addition to technical and structural reforms, the commission called for NASA to develop plans and policies for "the implementation of effective management communications at all levels," a recommendation so vague as to be meaningless. It cited a tendency at Marshall Space Flight Center, the home of the space shuttle's solid rocket booster program, for "management isolation," but that was it. The words *culture* and *learning* (in the organizational sense) did not appear anywhere in the Rogers Commission report.[3]

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These were critical omissions because the culture that led to the *Challenger* accident was one in which employees might be reluctant to speak up if they sensed that something was wrong. Allan McDonald, a Morton Thiokol official who had refused to go along with his management's decision to confirm in writing for NASA that it would be safe to launch *Challenger* into freezing temperatures, recounted intimidating remarks made in the teleconferences the night before the launch.[4] McDonald had stood his ground in the face of tremendous pressure, but his account spoke to a lack of psychological safety that needed to be addressed. An organization that disregarded the advice of its technical experts had to change more than its management structure. It had to come to grips with the human dimension of this difficult story and learn from it.

NASA did not learn from *Challenger* right away. As business schools wrote case studies about it, NASA hesitated to develop its own case study because the loss hit too close to home. But the accident opened the door for project management learning that eventually led to a concerted effort to harness the power of stories.

THE INTRODUCTION OF STORIES AT NASA

Many, if not most, project stories fall into one of three categories: successes, failures, or change initiatives that illuminate the political dimensions of work. *Challenger* is an example of a failure story that has been told in many different ways and shared far and wide outside of NASA. Within an organization, a failure story can prompt reflection that ultimately leads to changes in strategy, governance, processes and procedures, or culture.

The challenge of failure stories is that they are not often easy for organizations to accept. The people involved with the failure may feel persecuted, misunderstood, or otherwise unfairly treated. These dynamics certainly existed at NASA in the immediate aftermath of both the *Challenger* and 2003 Columbia accidents. The deaths of the crew members weighed heavily on everyone associated with the shuttle program, and it simply took time until people were ready to see their own stories as opportunities for learning.

One outcome of the *Challenger* era was the establishment of NASA's first-ever initiative to provide professional development for project managers. Ed, whose background as an organizational psychologist made him unlike anyone else at the agency, quickly bumped into the limitations of traditional training. He knew NASA's culture would demand learning from in-house project management experts rather than consultants peddling off-the-shelf lessons. These veterans had the knowledge, but many of the instructors he recruited for the first classes simply presented slides and lectured in a less-than-engaging fashion. But Ed saw that one senior project manager from Goddard Space Flight Center did things completely differently. Jerry Madden would simply tell stories. No slides, theories, or scripted presentations; instead, he shared actual experiences. And at a time when most NASA project managers still wore ties to work, Madden would leave the tie at home when leading one of these sessions. The success of Madden's approach pointed the way toward knowledge-sharing events that focused on stories rather than traditional training.

A knowledge-sharing event relying on stories begins by rejecting the premise of one-size-fits-all answers: rather than focusing on *the* way to solve a problem, the emphasis on personal story makes it clear there is *a* way to address a particular context. This is a vital advantage. It assumes the validity of many different perspectives, interpretations, and answers. It encourages diversity of opinion and thought.

And at NASA, storytelling elevated the events above training, which many leaders and subject experts would avoid as something foisted on them by human resources. Knowledge-sharing forums were a chance to involve colleagues and tell their side of the story. Training was boring. Stories were captivating.

Knowledge-sharing forums were not an overnight success at NASA.

Branding mattered. For starters, there was a fairly strong prejudice against the word *story* itself. The speakers were often very senior engineers who felt that describing a serious talk on the space shuttle as a story would be degrading and insulting to all concerned For this reason, these sessions were called Masters Forums at the beginning. There was little mention of "story" in the event announcements or descriptions. The term *Masters Forum* indicated that individuals with expertise in projects were coming together to discuss their experiences and lessons. The events were curated to be inclusive, so that practitioners with diverse backgrounds and broad-based project expertise would feel welcome and participate.

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Storytellers also varied in abilities. Some speakers were happy to try a new and possibly more effective approach, but the majority were wary of it. Several members of Ed's team were assigned to work with speakers who were initially reluctant to move away from stilted technical presentations toward more conversational reflections on their experiences. Eventually, almost everyone came around to the realization that stories worked well. At the end of the very first Masters Forum, which was held in 2000, several senior NASA executives approached Ed and said, "We are not sure what this session was, but we liked it." The proof of concept arrived in participant evaluations and increasing attendance. It helped that a few highly regarded engineers embraced the use of stories. Word spread about these early champions, creating a sense that it was okay to follow their lead. And as broadband internet became the norm, videos of compelling stories from forums could be shared with the world.

The first forums were not thematic but deliberately open to all kinds of stories. After the *Columbia* failure, events often targeted particular topics aimed at stimulating honest dialogue. This helped practitioners become comfortable sharing stories of failure and mistakes.

Eventually there were knowledge-sharing forums that addressed specific programs or challenges. An ambitious series of events focused on bringing together alumni of the space shuttle program as NASA prepared to close out shuttle operations in 2011. Program executives from the early days provided evergreen insights about the political savvy necessary to manage stakeholders in the White House and Congress. Engineers recounted the reasoning behind decisions that ended up shaping the program's trajectory. Representatives from private industry, academia, and NASA's international partners were invited to share stories of their roles as well.

At the same time that Ed was convening the early Masters Forums, he developed a series of publications that culminated in an award-winning journal called *ASK Magazine*. *ASK* primarily featured first-person stories from NASA practitioners. From the beginning, it set a tone that was conversational rather than technical. Issue 1 featured a story by Michelle Collins that began: "I was a new engineer at one of NASA's contractor sites, straight out of college and ready to conquer the agency. Of the 120 engineers there, I was the only female. To say I stuck out is putting it mildly."[5]

ASK welcomed a wide range of practitioner perspectives, not just war stories from veterans of the good old days. Since many NASA experts were not professional writers, Ed enlisted a team, including Larry, Matt, and Don Cohen to help capture and edit these stories.

The magazine eventually expanded to bring in relevant stories from experts outside NASA as well. As word spread about *ASK*, researchers began to cite its stories in other publications. Ed also began a monthly newsletter that enabled more frequent communication than *ASK*, which was published on a quarterly basis.

Storytelling was not a cure-all for the performance of NASA's projects, however. Even as the first generation of forums and publications got underway in the mid-to late 1990s, NASA experienced high-profile failures in its Mars program. A report on these failures by the Government Accountability Office in January 2002 found "fundamental weaknesses in the collection and sharing of lessons learned agency-wide."[6] The loss of the space shuttle *Columbia* in February of 2003 also raised pointed questions about what NASA had learned from *Challenger*.

But by the time NASA was reckoning with the aftermath of *Columbia*, some of NASA's new senior leaders and top engineers were the same people who had attended the early storytelling forums. They now championed these activities in real time while addressing significant challenges.

One example of this culture change can be found in the activities preceding the launch of space shuttle Endeavour on mission STS-119 to the International Space Station, which was initially scheduled for launch on February 12, 2009. The previous shuttle flight, STS-126, had experienced a malfunction with a flow control valve on ascent during its launch on November 14, 2008. The anomaly did not endanger the flight, but the engineering team on the ground knew that this would require immediate attention after the mission.

Work began as soon as the shuttle landed safely, but efforts to understand the problem and characterize the risk proved elusive. The pressure to solve this quickly was well understood by everyone in the shuttle program: STS-119 needed to complete its work at the International Space Station by March 26 in order not to interfere with a Russian Soyuz mission to the station. All decisions for complex programs involve a series of tradeoffs based on risks. The decision-making pressure stacking up for STS-119 was similar to that of Challenger and Columbia. In this case the team responded dramatically differently.

One of the final reviews before any shuttle launch was a Flight Readiness Review, which would convene the space shuttle program managers at Kennedy Space Center along with NASA's engineering and safety communities to review the mission and vote "go" or "no go." When the program made its case to launch on schedule at the Flight Readiness Review in February, the engineering and safety communities voted "no go," saying the program had failed to adequately characterize the risk associated with the flow control valve.

It took two more Flight Readiness Reviews until a technical solution emerged that assured the engineering and safety communities that the risk could be managed. NASA was able to launch STS-119 in the nick of time before it would have posed a significant schedule problem at the space station.

Shortly after the mission, NASA chief engineer Mike Ryschkewitsch requested a case study about the contentious decision-making process leading up to the launch of STS-119.[7] This represented a 180-degree shift from just a few years earlier. The story that emerged in that particular case study captured glimmers of the culture shift that had taken place at NASA in the post-*Columbia* era. After one of the difficult "no-go" Flight Readiness Reviews, Joyce Seriale-Grush, the chief engineer of the space shuttle orbiter, told Ryschkewitsch, "This was really hard and I'm disappointed that we didn't have the data today, but it feels so much better than it used to feel."[8] NASA had changed since *Columbia*, and leaders like Ryschkewitcsh were committed to letting the technical community know that it was safe to speak up. He commissioned the case study as a way of socializing what had just happened: dissenting opinions had been met with respect rather than scorn or disregard. The process had worked.

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WHY STORIES WORK

Stories are a natural form of communication that has always helped humankind convey and distribute information. Some scholars argue that humans are hard-wired to learn from each other in this manner. "Narrative arises from the advantages of communication in social species," writes Brian Boyd, who suggests that narrative has always provided useful knowledge to audiences and status to storytellers.[9] Stories have undoubtedly played an important part of our social evolution, and we have subsequently evolved to listen to them closely and with care. On a more practical level, psychologist Jerome Bruner describes story as one of our primary means of understanding the world: "There are two ways of cognitive functioning, two modes of thought, each providing distinctive ways of ordering experience, of constructing reality. ... A good story and a well formed argument are different natural kinds."[10]

Stories are legitimate means of explanation. They rely on a narrative arc to initiate and sustain interest in the body of the text, and if the arc is strong enough, the story will stick far more powerfully than a well-done PowerPoint presentation or paper. Bruner performed experiments that showed that stories were 22 times more memorable than flat information with the same content.[11] Since stories are so sticky, they can serve as an efficient and effective method for conveying important information to audiences that don't share the technical knowledge or expertise of the storyteller.

Why? Skilled storytellers bring emotion and passion to their delivery. This has a powerful effect that makes a listener attend to it carefully, and in many cases identify with the teller or protagonist. As a result, stories can lower the defenses of listeners and push them beyond binary cost-benefit thinking to consider alternative perspectives.

"Narratives are a performance-enhancing drug for empathy," says Jamil Zaki, a psychologist who leads the Stanford Social Neuro-science Laboratory.[12] Beyond that, stories leave room for the listener to make sense of what she is hearing. She can interpret, fill in gaps, and use her imagination to better understand and grasp meanings.

In a project environment, stories offer five major advantages. First, while databases, training, and other tools for sharing lessons require time and significant cost, storytelling is a low-cost method that needs no training. Few people will say, "I can't tell a story, I don't have that skill." Nearly anyone working on a complex project can share stories of challenges, successes, and failures.

Another advantage of stories is that they require and build the muscles of reflective leadership. Although projects value speed, this often comes at the cost of learning. One of the persistent findings of project failure is a lack of commitment and time for learning and reflection. Storytelling is flexible in its time demands; stories of all lengths can be valuable. When storytelling is accepted as part of an organization's culture, this allows reflective leadership to become a goal and an outcome related to increasing knowledge about complex activities within the organization. The reflective leader or practitioner becomes central to a learning organization in a context that demands the ability to develop, retain, and transfer knowledge.

A third attribute of stories is that they facilitate a communal sense of meaning. This concept is vital in an age of rapid change. When there is little change, a community—a family unit, team, or organization—can establish meaning over time. In a volatile and uncertain environment, a story provides a context in which people can find a shared meaning and purpose. A culture of knowledge is built on the meaning ascribed to agreed-on stories.

This is both the power and danger of story: regardless of its accuracy, it creates a shorthand for common understanding. Stories simplify reality, which can be useful for reaching broad audiences, but the process of simplification can introduce distortions that ultimately lead to poor decision-making. It should come as no surprise that stories often drive changes in processes, standards, and leadership direction.

A fourth advantage of stories is that they can provide a sense of clarity about what is important. All organizations and projects have an essential purpose. One of the prime challenges to that purpose is the ability to focus. Nonstop emails and meetings create constant pressure and distractions. Stories can serve as reminders to ignore nonessential activities in favor of vital priorities.[13] A compelling story that encapsulates a mission's purpose and goals can help team members cut through the noise and stay on task.

Finally, stories provide a sense of connection through a strong emotional link. They allow people to share their thoughts and feelings. Storytellers who express vulnerability by revealing their emotional stake in a story model the behaviors associated with psychological safety, which in turn can encourage others to share their perspectives without fear of retribution.

A story provides a context in which people can find a shared meaning and purpose.

PUTTING STORIES TO WORK

When asked about the most effective tool for changing the culture of an organization, we recommend stories.

There are many ways that teams can bring stories to an organization.

1. **Be clear about the goals for using stories.** Ed's efforts to promote the use of stories at NASA started with three goals. The first was to create a culture of reflective leadership and practitioners. Project teams often struggle with finding the time necessary for learning and conversation. This is understandable, but it creates a dangerous environment in which team members feel they cannot take time to learn and share ideas, concerns, and solutions. The second goal was to encourage the use, creation, and exchange of stories. At NASA we initially tracked the number of stories shared and their themes. (Eventually social media made it possible to track sharing in a much more granular way.) The third goal was to promote knowledge sharing through conversation.

2. **Start every project by telling your story.** Every project starts with a story. Projects are always about delivering value through products or services. The journey to arrive at that value is the story. Like projects, stories start with a problem. When you begin a project, ask the question, "What is the story we are hoping to tell on completion?" Note where the discussion goes. Is there agreement on the goals? Are there subplots? What different stories emerge? What are we learning about the project? Do all team members give voice to the story?

3. **Make room for presentations as stories.** Many organizations train people to provide formal slide presentations that are organized by logical thinking. Create places and spaces for presentations that are structured as stories as well. During knowledge-sharing forums at NASA, we would often ask presenters to tell a brief story about a success or failure without any slides in fifteen minutes or less. The practitioners quickly understood how to spell out the problem, context, approach to problem-solving, and outcome. The attendees would then extrapolate lessons from the story, which often differed from those of the presenter. This process encouraged practitioners to share perspectives rather than sell a viewpoint.

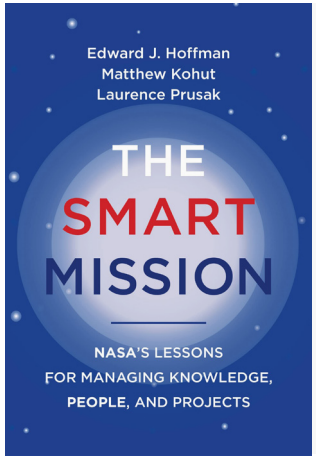
4. **Offer storytelling workshops.** Although telling stories can be natural and easy for many people, it is also a great skill to develop. Today there are many professionals with expertise in storytelling. At NASA, we arranged a session with Annette Simmons, author of *The Story Factor: Inspiration, Influence, and Persuasion through the Art of Storytelling*.[14] This created an appreciation among project professionals, scientists, and engineers of the value of this practice. Consider a team-learning session by inviting a specialist in stories to help build this capability among your people. There are also plenty of excellent resources about stories by authors ranging from David Hutchens and Nancy Duarte to Stephen King.

5. **Stories can be oral, written, or visual.** We have focused our discussion mostly on oral stories, but some storytellers are more comfortable expressing their ideas in writing. And at some NASA knowledge forums we hired visual storytellers to illustrate the stories that were shared. The enduring popularity of graphic novels over the past several decades has made it clear that stories with pictures aren't just for kids.

6. **Run experiments and iterate.** There are many ways to bring story into an organization. If a first attempt doesn't work, try a different approach. The key is to realize that stories are an essential tool to stimulate conversation, encourage reflection and learning, promote diverse voices, and inspire purpose. Some of the best organizations in the world understand this and take the time to build this powerful capability.

The boom in storytelling through popular formats such as TED Talks and The Moth has spread to the business world as well. Countless organizations have now hosted TED-like events to give employees an opportunity to share their stories. If nothing else, this trend serves as a clear indication of the growing acceptance of personal stories in professional settings. **When it comes to creating meaning and organizing reality, stories are as legitimate a tool as any other, and they have finally reached a wide level of acceptance and appreciation in even seemingly hostile cultures. They will likely never be an underused asset again.**

Info



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Endnotes

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