Because stories almost always tell about a hero or group of people facing a challenge, listeners see the events of the story through those individuals' thoughts and feelings. We tend to identify with the hero and live the story through him or her. Think about the tragedy of the Apollo 1 fire. A lot of essential technical information about what happened was captured in reports that followed the accident. But the story of what happened communicates the sorrow, pain, and guilt of the accident, the human failings that contributed to it, the passionate determination of the survivors to do better and to go on. Hearing the story today helps NASA engineers understand their limitations and what's at stake in their work, and it inspires them to work harder and better. Stories get us as close as we can to learning from experience without actually having the experience.

As the interview with storyteller Jay O’Callahan in this issue of ASK makes clear, metaphor—images that suggest a range of meaning—makes stories powerful and rich. Metaphor is part of what makes listeners active participants in stories, and they must engage with and interpret these images that work on the show-don’t-tell principle. An image that has to be explained, Campbell says, is not working. You would never say, “He was a deer in headlights, and what I mean by that is that he was stunned, scared, and caught unaware.”

Metaphor frees us to interpret stories individually. Stories, metaphor, and narrative activate our innate impulse to search for meaning. As listeners, we play with them like kids on well-constructed jungle gyms. We feel as if we are extracting meaning ourselves, and we are—stories don't force a single, simple conclusion on us. But a good story guides us, so that what we learn is what the story wants to tell us, but adapted to our own needs and interests. Charles Dickens’s A Christmas Carol demonstrates the transformative power of living through a story. Ebenezer Scrooge’s nephew, Fred, and his employee, Bob Cratchit, try to talk him out of his stinginess to no avail. Even the ghost of his former partner, Jacob Marley, can’t convince him to change his ways. Only directly witnessing the drama of his past, present, and future gives Scrooge an emotional understanding of the meaning of his life powerful enough to change him.

Although we are not all so fortunate to have the ghosts of our past, present, and future create a personal holodeck for us to journey through, a good story can come close to giving us a sense of lived experience. The technical information we need to do our work probably comes from other sources, but stories tell us how we work—and even more important—why we work.
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Cohen: When we think about stories, we usually think about events more than images, about how a character deals with a problem or a challenge. Isn’t wondering about what’s going to happen an important part of stories?

O’Callahan: Astronaut Gene Cernan, speaking at Akron High School in Massachusetts, said walking on the moon was like dreaming or like hearing a story before bedtime. I think he meant the experience was full of mystery. Only a word like dream could communicate how unusual the experience was. The deepest stories, like Melville’s Moby Dick, touch on mystery, and there is something mysterious, bravely wild, and joyous about exploring the universe.

A friend of mine, Gail Gutradt, is writing a work in progress about her volunteer work with children who have AIDS in Cambodia. Gail was speaking to a seventeen-year-old boy, Samorn, who hopes to be a doctor. He asked Gail if it were true men had walked on the moon.

Cohen: There’s a good bit of danger and uncertainty in that adventure. I think those things are often part of compelling stories.

O’Callahan: Usually stories have elements of risk, trouble, challenge, adventure. These elements are universal because they’re part of life. A story gets exciting when someone takes a risk. With risk there’s tension and with tension there’s energy, and the energy draws us into the story. NASA’s work involves great risk. Sometimes, as with Challenger and Columbia, the result is tragedy.
O’CALLAHAN: I lived through that time. I had a sense the astronauts were invulnerable. They were so well trained, and the engineers behind them were superb. Nothing was going to go wrong. That’s one of the reasons the Challenger crew’s death moved people so deeply. Christa McAuliffe was not an engineer; she was a teacher and she died, and the whole space enterprise became very human. The Challenger lifted off and in seventy-three seconds the Space Shuttle disintegrated. Seventy-three seconds. That’s a day I’ll remember, like the day of Kennedy’s death. The danger was there, but we were lulled into thinking the space flight was routine.

COHEN: You also experienced the Sputnik era. Sputnik went up almost exactly fifty years ago. What impression did that make on you?

O’CALLAHAN: Sputnik made a huge impression on my high school, the country, and me. People were frightened that the Russians were getting ahead of us. The Cold War was oppressive in high school. There was no sense of wonder in our chemistry class. It was all Sputnik! Learn! We had a math teacher who said, “X! Why can’t you find X? The Russians have Sputnik. They’re watching us. Find X or we’ll all be speaking Russian!”

COHEN: Can people be taught how to tell stories?

O’CALLAHAN: In workshops I draw stories out of people. Everyone is filled with stories. Flannery O’Connor says if you get through childhood you have enough stories for a lifetime. I use simple suggestions that I call “sparks” to elicit stories. I might say, “Can you recall a moment in your life when a shoe was important?” Then I give people a couple of minutes to tell their memory to a partner, after which I have the partner appreciate what was alive in the story. The appreciations are information which the storyteller builds on. The appreciations can be about language, character, detail, expressions, sound of the voice, gesture, and emotion—anything that’s alive.

There was a doctor in one of my workshops who talked about having marvelous handmade shoes when he was a freshman at the University of Chicago. He often noticed a pretty girl he wanted to ask out and finally got the courage. On the third or fourth date he asked, “Why did you say yes when I asked you out?” She said, “I thought anybody who would wear shoes like that must be very interesting.” They’ve been married thirty years. His story was fresh and told with great warmth.

COHEN: The emotion comes from the fascinating detail, rather than, say, training in vocal expression?

O’CALLAHAN: The emotion comes from a hundred places. There is a universe within each of us: family characters, friends, enemies, and fictional characters. And so many moments. It’s the job of the workshop leader to bring the moments out so the storyteller is more aware of the gold mine within and aware of his or her strengths. By strengths I mean a sense of humor, enthusiasm, a presence, a way of using language, a sense of beauty. I’ve found most people are not aware of their strengths. That’s why appreciations are important.

Professor Talbot Page, an environmental economics professor who’s just retired from Brown University, took my workshops in order to find new ways to stimulate his students. Professor Page began using this method of appreciations and found his students responded well and wrote better papers.

COHEN: So if you did a storytelling workshop for NASA project managers and engineers, you’d listen for the interesting details?

O’CALLAHAN: I would start with little things, like the shoe spark, just to be playful and build up trust. Then I would ask: what are some wonderful moments in your work? What are some hard moments?

COHEN: I think you’ve had the experience of creating stories about the history of a place or an organization. What is that process like?

O’CALLAHAN: I was commissioned to create a story about the steel-making community of Bethlehem, Pennsylvania. Pouring the Sun, the story, took three years to create. Steel-making was not my world. I was compiling what I call the “compost heap,” talking to salesmen, steel workers, foremen, community people, managers, historians, and union representatives.
O'CALLAHAN: Place becomes a character in every story. It’s so obvious, it’s invisible to us, but place shapes us. A lot of my stories are about growing up in a place called Pill Hill, a predominately wealthy neighborhood in Brookline, Massachusetts. Pill Hill shaped me. The trees there, the neighbors, the political and religious conflicts that were going on which seemed electric to me as a boy.

When I’m commissioned to do a story, I need to be part of the place. I need to talk to the people who live and work there. I need to walk the streets. In the city of Bethlehem, I met one family, the Waldonys, and I centered the whole Bethlehem Steel story on them. Ludwika Waldony was eighteen years old when she came from Poland on a ship by herself in 1907 with very little education and almost no money. The story is told through her eyes. Storytelling is a fundamental way of communicating. I was so moved I wanted to meet her, I listened to her voice. Storytelling is a generosity of spirit. My children listen to me as a boy.

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O’CALLAHAN: Rather than disappointed, I think people are distracted. They are almost too busy to focus on anything, but space exploration is so extraordinary I think our imaginations can catch fire again. After millions of years we’re able to leave this earth and explore what’s beyond. That’s amazing. If people can take this in they’ll realize how astonishing it is. There are rovers on Mars and now we’re headed toward sending a manned spacecraft to Mars.

In another ASK interview, Michael Coats says, “When I look down, I’m no longer a Texan or an American; I’m part of the human race.” In time we may all see through the eyes of Michael Coats and realize we can find ways to live and work in greater harmony.