# Reawaken the American Spirit of Innovation in Your Organization

Col Stephen B. Waller, USAF

*Necessity is the mother of invention.*

—Plato

Many people could argue that American national security and the development of airpower in particular have always depended on innovative individuals. Our service has a deep well of achievement from which to draw.[1] The chief of staff of the Air Force has consistently stressed the need for all Airmen to embrace innovation. Have you asked yourself how to become innovative, or have you, as leaders, worked to create a culture conducive to innovation, simply defined as "the introduction of something new"? Today we typically use the word in the context of solving a problem, meeting a need, or doing something better. Encouraging others to extend themselves beyond the present accepted paradigm and to think creatively may seem perplexing. It is easier than it first appears and can prove to be a rewarding experience. Beyond that, remaining satisfied with the status quo can lead to potentially grave consequences. This article addresses the importance of reinvigorating the innovative spirit that has historically marked the American people, particularly aviation pioneers. Furthermore, it provides methods that leaders, organizations, and

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individuals may use to foster such efforts in the defense of our great nation and the furtherance of our Air Force.

## Why Is It Important That We Innovate?

Innovation is valuable, both personally and organizationally. It enables us to solve problems, enhance our quality of life, boost productivity with fewer or more affordable resources, and strengthen our economy and security. For example, the US Air Force and the Department of Defense face serious fiscal and security challenges that require creative ideas beyond our current solution set. Innovative teams and individuals able to integrate current resources in new ways or to creatively make the most of technological advances are critical for corporate and government success in solving wicked problems.

If we cannot find those solutions, others will do so and lead the way into a disruptive future. Advancements in information technology have empowered many persons around the world, offering easy access to advanced tools and the means to pursue an array of new possibilities. Adversaries will continue to create and develop ways to attack our cyber infrastructure and deny access to areas of national interest. Terrorists will imaginatively use resources in new ways, as they did in the 2008 Mumbai attack.[2] Latin American drug cartels creatively use emerging technologies and develop novel ways to employ not-so-new delivery vehicles.[3] We must have innovative Airmen who can successfully deter, dissuade, and counter these formidable challenges.

Simon Sinek, author of the book *Start with Why*, has said that the Air Force core—the "why"—emphasizes innovation with a culture in which "every Airmen is an innovator."[4] Gen Mark Welsh III, the Air Force chief of staff, embraced this idea in his *Vision for the United States Air Force* of January 2013, noting that "the story of the Air Force is a story of innovation. Airmen . . . have long stood for and pioneered innovative ways to win the fight while shaping the future. Airmen characteristically view security challenges differently—globally, without boundaries. . . .

Now, more than ever, we need bold leaders at every level who encourage innovation, embrace new thinking, and take prudent risks to achieve mission success."[5]

General Welsh provides clear, top-down emphasis to pursue innovation, but a disconnect exists with the service's bottom-up effort. When I served as a group commander, this disconnect became noticeable as I sought to cultivate a culture of innovation. After stressing my desire for ideas and feedback, most Airmen were either hesitant or reluctant to offer them. We emphasized Air Force Smart Operations 21 concepts as well as the Air Force Ideas program, which makes available monetary incentives for cost-saving ideas. My personal experience revealed that the process didn't inhibit their creativity; rather, these Airmen had a perception that they couldn't influence change. I visited with hundreds of them in a variety of settings and asked whether they believed they could change the Air Force or present an idea that would alter the way we did something. Consistently, fewer than 10 percent raised their hands.

I've asked Airmen, from junior enlisted members to field grade officers, what they think the phrase "fueled by innovation" means. I've yet to hear anyone translate those words into a personal challenge to participate in such innovation. I've queried Air War College students—Air Force lieutenant colonels and colonels who represent our future senior leaders—about their reaction to the statement "every Airman an innovator." Many remark, "Well that isn't me."

Mostly through their lack of response, these Airmen told me that they were not connecting how and what they do in the Air Force to our "core" of innovation. Using Sinek's methodology from *Start with Why,* I suggest that this disconnect reflects an improper alignment of the Air Force's "how" and "what" with the innovative "why."[6] Todd Henry, author of *The Accidental Creative*, explains that dissonance kills creativity and complicates people's ability to make sense of how to affect organizational problems or understand why they're doing what they're doing. Rather, they feel that they are following some mysterious

direction from above without a clear view as to why.[7] Thus, if Airmen don't believe they can introduce new ideas, then their "what" and "how" aren't connected to the Air Force "why."

What is the main factor causing this disconnect and dissonance? It's primarily organizational bureaucracy. As any agency matures, bureaucracy and complexity, if not countered, will discourage innovative effort. Air Force bureaucratic managers (antibodies to innovation) inclined to say "no," along with layers of bureaucratic complexity, are stifling the "why" connection and flow of creative ideas from the bottom up.[8]

Without question, the Air Force has innovative Airmen and stresses the importance of efficiency and creativity, but most Airmen won't innovate until they believe that their ideas will make it through the bureaucratic quagmire. I am not suggesting a total debunking of bureaucracy because some oversight is necessary to synchronize effort and ensure the accountability of resources, but the good news is that leaders may take steps to overcome or balance bureaucracy to avoid organizational disconnects.

## Six Leadership Methods to Spur Innovation

### 1. Schedule Time to Think and Exercise Imagination

*We have run out of money; now we have to think.*

—Winston Churchill

Leaders and their organizations may overcome the productivity paralysis of sitting for hours looking at e-mail or attending routine meetings by scheduling time to think. Leaders, teams, sections, and individuals should set aside time to consider how they may solve organizational problems and improve their quality of work and life. As the bane of e-mail, meetings, and low-priority minutiae quickly fills the workday, we have to make a concerted effort to unencumber the mind and reflect

on problems, priorities, and goals. Although the Air Force has some brilliant commanders and thoughtful problem solvers, I have not seen many of them emphasize taking time to ponder issues; consequently, they limit opportunities to pursue critical, innovative thinking. Given this time of sequestration and resource cuts, all leaders should stress the need to think and innovate. As leaders, we have the option of maintaining the status quo and watching our resources and capabilities decline, or we may consider new ways of thinking smartly to sustain, change, or eliminate redundant capabilities.

Personally, if I hadn't made "taking time to think" a priority, then it wasn't likely anyone else would have either. Like most commanders, I found myself endlessly busy with decisions, meetings, events, and e-mails, but with focused effort and help from a great staff, I was able to schedule time to think by giving more responsibility and authority to my staff and squadron commanders. Doing so not only gave me time to imagine and evaluate new ideas but also empowered my staff and commanders to make our organization stronger and more resilient. Carroll Zimmerman's description of Gen Curtis LeMay captures this point:

> LeMay's reliance on the people he selected for senior positions [allowed] him time to be available on short notice. By concentrating on basic strategies and major decisions, while depending on his staff to formulate them, he escaped the trap of a bulging schedule that would have made mature planning difficult. As a result, he was able to stay in complete control of SAC's operations, while being one of the most available persons in the headquarters.[9]

Taking time to reflect and imagine can have far-reaching benefits, even upon our national security and economy. The *9/11 Commission Report* identified imagination as one of the US government's failures in assessing the terrorist attacks of 11 September 2001 (9/11): "Imagination is not a gift usually associated with bureaucracies. . . . It is . . . crucial to find a way of routinizing, even bureaucratizing, the exercise of imagination."[10] The commission's point about making the "exercise of imagination" routine appears influenced by a historian's observation of the

Japanese attack on Pearl Harbor: "In the face of a clear warning, alert measures bowed to routine."[11] In an interesting parallel, air-minded innovator Gen William "Billy" Mitchell warned in an official report submitted in 1924, after visits across the Pacific, that "Japan's expansionism would lead to conflict with the United States," starting "with a surprise attack by Japanese forces on Pearl Harbor, Hawaii, in conjunction with an assault on the Philippines."[12] Given the 9/11 terrorists' use of airpower in a unique yet diabolical way, one has to wonder if an imaginative, innovative Airman could have helped predict and prevent such a scenario.

## 2. Remove Layers of Organizational Bureaucracy

As commander of Tactical Air Command, Gen Wilbur "Bill" Creech took steps to remove bureaucratic layers by reducing regulations. He created "working-level groups from operations, maintenance, supply," and other functional areas to review "all the regulations that pertained to their activities" and to "get rid of at least half of them—and even more if they thought appropriate."[13] Creech acknowledged other senior leaders' arguments that "the rules were there for a reason . . . saving us from our past mistakes," but he replied that "they are also saving us from our future accomplishments."[14] Over time, most organizations—including the Air Force—build a mountain of rules in reaction to accidents and incidents to centralize control and drive desired decision making. General Creech, however, stressed decentralized leadership or empowerment, explaining that "centralizers always add rules as they go along in the futile effort to force compliance."[15] Rather than follow stifling layers of regulations, he took a risk by trusting his people and their creativity to improve the Air Force. His confidence in them paid off with impressive validation in the Gulf War.[16]

Leaders may also reduce bureaucracy by removing layers of command and supervision. With flatter organizations, innovators closest to problems have more freedom to interact with the right people to pursue creative solutions. Less hindered by hierarchical choke points and

stovepipes, they can maneuver in a decentralized environment to influence change.[17] Ori Brafman and Rod Beckstrom, authors of *The Starfish and the Spider*, call such agents of change "catalysts." Contrasting bureaucratic chief executive officers (CEO) with catalysts, they paint the latter's creative environment. The CEO is at the top of the hierarchy exercising command and control in a directive manner whereas the catalyst's peer approach exercises trust in a collaborative manner. The CEO is "rational, powerful, in the spotlight" with a focus on organizing while the catalyst is "emotionally intelligent, inspirational, behind the scenes" with a focus on connecting.[18]

Some Air Force leaders have successfully removed layers of command over the years, mostly in response to fiscal constraints or required force shaping. Gen Merrill McPeak, former Air Force chief of staff, did so in the 1990s, reorganizing numbered air forces, reducing major commands, and eliminating administrative staffs.[19] Even today the service is conducting manpower cuts and consolidating staffs. Imagine deliberately taking these steps with the intent of developing an innovative service culture. Air Force leaders could utilize the current fiscal constraints as an opportunity by leveraging cuts and consolidations to encourage a more decentralized, creative environment.

### 3. Foster a Creative Environment

To help make the exercise of imagination more routine and inspire an environment that pulls new ideas and solutions from the bottom up, leaders should communicate their desire for creative ideas and define an acceptable level of risk by setting boundaries to avoid unacceptable degradation to core functions in case of failure. They may spark creative ideas by empowering others to initiate change.

How can leaders pursue these steps? First, they should express their desire for new ideas to everyone in the organization. Next, leaders should charge lower levels of leaders and supervisors to survey and pull creative solutions from their folks while providing a simple process to express their ideas. A leader should emphasize that the organi-

zation needs to trust, respect, and respond positively to any suggestion presented. Senior commanders can communicate to subordinate commanders that they "have their backs" and want them to take some chances in pursuing beneficial change. Thus, commanders empower their supervisors with authority to act on their ideas and not just "mind the store." Mark Abramson and Ian Littman's research on successful, innovative environments in the public sector supports this approach and concludes that respect, trust, and empowerment of employees are crucial to fostering innovation.[20]

To focus the organization's creative spirit and counter organizational dissonance, leaders should communicate the organization's goals and define what success looks like. To ensure that goals are clearly defined and understood, they may encourage their personnel to ask questions about why, how, and what they are doing and then have them reiterate what they have been asked to accomplish.[21] Leaders reduce dissonance by communicating to individuals and squadrons their vital role in carrying out the mission and achieving success.

Leaders should highlight success and reward ideas even if they lead to failure. In my commander calls with group personnel, I highlighted each squadron's creative ideas and problem solving and recognized teams or individuals behind the effort. If leaders go even further to recognize or reward those who put forth an idea that failed, then more people will be willing to risk presenting their thoughts. By recognizing failure as part of the innovative process, leaders may condition their organizations to prepare for and overcome it, building individual and organizational resilience and agility.

Recognition of creative teams and individuals illustrates an important progression from the innovative environment to creative action. As leaders work to cultivate such an environment for the entire organization, they should inspire teams and people to exploit that atmosphere for creative benefit. The leader simply works from big to small, encouraging the innovative spirit across the organization down to teams and individuals.

As leaders hone the emphasis on innovation from big to small, another key to success in pursuing ingenious solutions involves inspiring the individual. By encouraging people to solve problems personally (e.g., at home), leaders help empower them to pursue innovative solutions where they work. Most personnel don't consider themselves innovators, or they pass off work problems as "that's just the way it is." Leaders may need to kick-start their creative juices by tailoring a variety of methods to encourage individuals in their pursuit of creative problem solving.

In his book *The Back of the Napkin*, Dan Roam presents a method of drawing out the aspects of problems to visualize factors that influence the challenge at hand and then tapping our brain's strength in recognizing patterns to spark new ideas. He explains that "visual thinking means taking advantage of our innate ability to see" through visual tools such as "our eyes, our mind's eye, and our hand-eye coordination." Following a process of "look, see, imagine, and show," we can open our mind's eye by addressing five questions: "simple or elaborate, qualitative or quantitative, vision or execution, individual or comparison, change or status quo." Roam says we can "see" and "show" the last part of the visual thinking process through illustrating "who/what, how much, where, when, how, and why."[22]

### 4. Establish Small, Diverse Teams

A small team made up of members from a diverse cross section of the workplace can solve the difficult problems facing all of the organizations represented as well as help unravel even higher, more senior-level dilemmas. For example, my wing commander directed me to lead a small team—the Nellis Strategic Planning Cell (NSPC)—to find solutions to the most difficult problems threatening our mission success. I decided to expand and hone our emphasis on short-, mid-, and long-term results. I also ensured that I had sufficient representation of decision makers balanced with a manageable number of people to cultivate a creative spirit and shared vision. NSPC team members con-

sisted of a varied mix of representatives from airspace, range, operations, test, maintenance, and support across multiple wings and agencies. The team came up with brilliant new ideas and solutions that I never would have thought of. Amazingly, many creative suggestions came from members outside the functional problem area (e.g., maintainers proposing a different way to approach and solve an operations problem).

This NSPC team saved the Air Force hundreds of thousands of dollars in the first year of its existence and paved the way to saving millions. It crafted new ways to conquer our most substantial challenges, such as bedding down F-35s at Nellis AFB, Nevada; overcoming a lack of funds and resources to provide the adversary air needed to train the service's elite Airmen at the USAF Weapons School; cooperating to ensure that all users of the Nevada Test and Training Range received the airspace required (needs exceeded airspace available) to complete their missions successfully; collaborating with higher headquarters to optimize the training and deployment preparation for Air Force warfighting units, providing an annual $4 million cost-savings plan; and creating a variety of new concepts and methods to improve our processes across competing organizations.

This NSPC small-team approach also allowed us to maintain continuity in the midst of frequent turnover due to job assignments or changes. New assignments and frequent moves complicate the progress of innovative projects in large organizations such as the Air Force. As team members finally developed momentum on their idea or project, they were typically assigned to another location or position. The small-team approach produced a shared vision so that the other members could see the effort to completion.

Organizational or team leaders may spark or start a team's innovative effort by "developing the operational approach," as covered in Joint Publication 5.0, *Joint Operation Planning*, which notes that the commander or leader should "encourage discourse and leverage dialogue and collaboration to identify and solve complex, ill-defined prob-

lems." In developing the operational approach, the team collaborates to identify "where we are" ("a common understanding of the situation"), "where we want to go" (the goal), and the "problem" ("what prevents us from going where we want to go?").[23]

Small, unfettered "red teams" offer an adversarial or contrarian view to typical organization processes, thereby sparking creative thinking. Joint Publication 5.0 explains that these teams provide a means to challenge traditional thinking and "to see things from varying perspectives; . . . to avoid false mind-sets, biases, or group thinking; or use inaccurate analogies to frame the problem."[24] The 9/11 Commission also recommended the use of red teams to improve imaginative analysis.[25] From a business perspective, IBM followed suit by sending a small group to Florida, away from corporate influence, to reevaluate its personal computer interests.[26] Clayton Christensen and Michael Raynor, authors of *The Innovator's Solution*, point out that "the only times that established companies succeeded in staying atop their industries when confronted by disruptive technologies were when the established firms created a completely separate organization and gave it an unfettered charter to build a completely new business with a completely new business model."[27]

### 5. Visit Nontraditional Organizations

Given the corporate focus on innovation, leaders can pursue team or individual visits to industry, science and technology labs, or other diverse organizations to bolster ideas on innovation that lie outside their traditional viewpoint. Entities such as the Defense Advanced Research Projects Agency, Sandia National Labs, and Air Force Research Labs supply outstanding help in pursuit of innovative, nontraditional solutions. Leaders can also use sabbaticals or periodic events with other communities or companies to give people a different perspective on ways and means for brainstorming creative answers. Department of Defense leaders could push for a merge of such sabbaticals into the existing professional military education system, such as some of the Air

Force Fellows programs, to complement military academic development with creative broadening.

### 6. *Mentor and Encourage Individuals to Communicate Their Ideas*

Leaders should counsel their people to form an argument in communicating their innovative ideas. Sometimes a person's great idea doesn't go anywhere because the reason or evidence behind it isn't communicated well to leadership. Leaders can recommend resources, such as *The Craft of Research*, to assist their innovators in thinking through their great ideas and build the case for its implementation. For example, *The Craft of Research* explains that when you make a claim, you should "back it with reasons based on evidence, acknowledge and respond to other views" and, if necessary, "explain your principles of reasoning."[28]

## Conclusion

Innovation is vital to organizations. It offers a means to solve problems, enhance quality of life, boost productivity, and strengthen the economy and security. Leaders and organizational members may take the steps discussed above to spur innovation in organizations.

Air Force innovation is essential to continued development and sustainment of future American airpower and the military advantage needed for national defense. Given the magnitude of fiscal reductions and security challenges we face as a nation, our innovation and ability to create new solutions to triumph over these difficult issues are essential to America's future security requirements and prosperity. ✪

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### Notes

1. Airplanes didn't exist over 110 years ago, but today the United States has sent men to the moon and back and successfully landed rovers on Mars; moreover, the Defense Advanced Research Projects Agency is currently attempting to develop the means to fly at Mach 20. Countless individuals have played innovative roles in the development of aircraft

used to win wars, change global logistics, and bolster the American economy and security. Army Air Corps and US Air Force innovators creatively met needs that boosted American airpower, productivity, and security. Gen Billy Mitchell created an Army Air Corps. Great Airmen such as generals Henry "Hap" Arnold, George Kenney, Curtis LeMay, and many more blazed new paths in developing the organization, structure, tactics, training, capabilities, and culture needed to form the world's premier air force.

2. Ten terrorists used the Global Positioning System, Google Earth, and Voice over Internet Protocol communication to complicate law enforcement's abilities to locate or identify them. Jeremy Kahn, "Mumbai Terrorists Relied on New Technology for Attacks," *New York Times*, 8 December 2008, http://www.nytimes.com/2008/12/09/world/asia/09mumbai .html?_r = 0.

3. For example, drug traffickers' submarines have evolved from crude, semisubmersible, metal vessels to fiberglass, submersible, self-propelled, diesel-powered vessels to deliver cocaine to the United States. Demonstrating that innovation includes more than just high-tech solutions, smugglers also use a continuing evolution of catapults, pneumatic cannons, speedboats converted to smaller but faster "go-fast" boats, ultralights flown at night with no lights to avoid detection, and seemingly endless new methods to deliver their contraband. Kelsey D. Atherton, "5 Crazy Machines Smugglers Use to Get Drugs across the Border," *Popular Science*, 19 April 2013, http://www.popsci.com/technology/gallery/2013-04/how-do -smugglers-get-drugs-across-border?image = 2.

4. Simon Sinek, "What Makes the United States Air Force So Innovative?," video, 2:02, YouTube.com, 11 April 2011, http://www.youtube.com/watch?v = aSoDSkj6aOo.

5. Gen Mark A. Welsh III, *The World's Greatest Air Force: Powered by Airmen, Fueled by Innovation; A Vision for the United States Air Force* (Washington, DC: Headquarters US Air Force, 15 August 2013), [4], http://co.ng.mil/News/PublishingImages/13-01-10-USAF-Vision.pdf.

6. Simon Sinek, *Start with Why: How Great Leaders Inspire Everyone to Take Action* (New York: Portfolio, 2009), 66–67, 137–38.

7. Todd Henry, *The Accidental Creative: How to Be Brilliant at a Moment's Notice* (New York: Portfolio/Penguin, 2011), 82–84.

8. Phil McKinney, a former Hewitt Packard vice president, explains in his podcast titled "Killer Innovations" that organizational leaders and members who are risk averse and resistant to change become corporate antibodies and bureaucratic roadblocks that kill innovative ideas. Phil McKinney, "How to Fight and Survive the Corporate Antibodies: Killer Innovations," podcast, 13 February 2012, http://philmckinney.com/archives/tag/corporate-antibodies.

9. Carroll L. Zimmerman, *Insider at SAC: Operations Analysis under General LeMay* (Manhattan, KS: Sunflower University Press, 1988), 34.

10. National Commission on Terrorist Attacks upon the United States, *The 9/11 Commission Report: Final Report of the National Commission on Terrorist Attacks upon the United States*, 1st ed. (New York: W. W. Norton & Company, [2004]), 344.

11. Ibid.

12. "Brig. Gen. William 'Billy' Mitchell," fact sheet, National Museum of the US Air Force, 11 February 2010, http://www.nationalmuseum.af.mil/factsheets/factsheet.asp?id = 739.

13. Bill Creech, *The Five Pillars of TQM: How to Make Total Quality Management Work for You* (New York: Truman Talley Books / Dutton, 1994), 314.

14. Ibid., 315.

15. Ibid., 314.

16.  "In the hours before the start of Operation Desert Storm on 16 January 1991, the Air Force chief of staff, Gen Merrill A. McPeak, wrote a letter to one of his old bosses. In it, he said, 'We are about to harvest the results of years of hard work and leadership by you and a handful of other great Airmen. We will do well. But we need to recognize that we are beholden to you, because you really built this magnificent Air Force we have today.' The Air Force did well, and McPeak was correct. In fact, after leading his air forces to such stunning success in Desert Storm, Lt Gen Charles A. 'Chuck' Horner, the joint force air component commander (JFACC), echoed McPeak's sentiment: 'General Bill Creech gave us the organization and training that made the success of our crusade possible. I can't thank him enough for that.' " Lt Col James C. Slife, *Creech Blue: Gen Bill Creech and the Reformation of the Tactical Air Forces, 1978–1984* (Maxwell AFB, AL: Air University Press, 2004), 1, http://www.au .af.mil/au/aupress/digital/pdf/book/b_0095_slife_creech_blue.pdf.

17.  The term *stovepipes* refers to the Napoleonic vertical structure common in large military organizations. Rank-conscious bureaucratic entities typically flow information up and down a chain of command or vertical structure rather than exchange information horizontally across other organizations.

18.  Ori Brafman and Rod A. Beckstrom, *The Starfish and the Spider: The Unstoppable Power of Leaderless Organizations* (New York: Portfolio, 2006), 129–31.

19.  General McPeak emphasized three main operating principles in his organizational restructuring efforts: (1) streamline the organization by eliminating layers of command, (2) eliminate activities that add little value, and (3) combine authority and responsibility with accountability for performance at every level. Merrill A. McPeak, *Selected Works, 1990–1994* (Maxwell AFB, AL: Air University Press, 1995), 6.

20.  Mark A. Abramson and Ian D. Littman, eds., *Innovation* (Lanham, MD: Rowman & Littlefield Publishers, 2002), 3.

21.  Some of the wording I use here is influenced by Todd Henry's comments in his "The Accidental Creative" podcast, 26 September 2013, http://www.accidentalcreative.com/podcasts /ac-podcast-65-process-vs-product/.

22.  Dan Roam, *The Back of the Napkin: Solving Problems and Selling Ideas with Pictures* (New York: Portfolio, 2008), 4, 254–55.

23.  Joint Publication 5.0, *Joint Operation Planning*, 11 August 2011, III-3, http://www.dtic .mil/doctrine/new_pubs/jp5_0.pdf.

24.  Ibid., III-5.

25.  National Commission on Terrorist Attacks upon the United States, *9/11 Commission Report*, 347.

26.  Clayton M. Christensen and Michael E. Raynor, *The Innovator's Solution: Creating and Sustaining Successful Growth* (Boston: Harvard Business School Press, 2003), 66.

27.  Ibid.

28.  Wayne C. Booth, Gregory G. Colomb, and Joseph M. Williams, *The Craft of Research* (Chicago: University of Chicago Press, 2003), 114.

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