



Albert Einstein, Washington, DC, ca. 1921–1923
(Library of Congress/Harris & Ewing)

Executive Summary

One of the great efforts undertaken every year is the mission of joint professional military education (JPME) faculty members to advance the critical and creative thinking skills of their students. Why and how do they do this? For the why, I turn to one of the greatest minds we have known, Albert Einstein, who in 1955 stated to *Life*, “The important thing is not to stop questioning. Curiosity has its own reason for existing. One cannot help but be in awe when he contemplates the mysteries of eternity, of life, of the marvelous structure of reality. It is enough if one tries merely

to comprehend a little of this mystery every day.” It seems that a key to genius is in constantly seeking out answers even to questions that we may already know the answers to.

In my JPME teaching experience, I believe many students matriculate thinking they are already successful thinkers. But what happens over that year tends to surprise them and, to the satisfaction of their faculty, is the real secret to joint force sustainment. Students are challenged at every turn by the readings as well as their faculty and classmates, whether they openly admit so or not. The seminar discussions, problem-solving,

paper writing, presentations, travel to familiar and new places, and interacting with senior leaders all work together to slowly and irreversibly place each eventual graduate on a different and perhaps higher intellectual plane.

What happens in the classrooms is often quite remarkable and difficult to explain to an outsider, but essentially the faculty asks students to question everything in order to better understand the world they live in. Some might ask, “Aren’t military personnel just supposed to accept the orders of their superiors and do as they are told?” The answer to such a question—“It depends”—is exactly why

we need such educational experiences. American history is replete with examples of leaders deciding to go against their training and mission brief when circumstances demand a less-than-obvious approach to solving a problem.

Such is the fundamental separation between what has happened that can be documented and what may happen that has not. Successful fighting forces in the past have learned to adapt and overcome, and PME classrooms are one of the key places where that ability is developed for those who are headed to our highest positions of responsibility in uniform. The best are expert thinkers who can also express their thoughts in such a way as to convince others to follow as needed, adapt when necessary, but always value the process of learning to become a better thinker. It starts when one questions everything with the end of learning how to fight the next war better than the last. This issue of *Joint Force Quarterly*, the first of 2020, will certainly require you to ask questions as the authors try to provide insights to the future in the decade ahead.

Leading the Forum, one of the Australian Army's leading thinkers, Mick Ryan, discusses efforts to advance intellectual development within the ranks to meet what he describes as a new industrial revolution. The problem of modeling warfare in all its forms has been an equally challenging problem, so when an author such as KC Reid offers a way to develop a unified model of warfare, we take notice. While reports of decreased funding for research and development have made news lately, the directors of the U.S. military's laboratories, William Cooley, David Hahn, and John George, provide a valuable update on what advances we can expect from their work and what they recommend other national research efforts can do to keep the United States out front technologically. As advancements in technology arrive in the battlespace, arguing against going too far down the mission command road, Trent Lythgoe suggests that fighting forces need to become less hyper-decentralized in terms of command relationships.

In JPME Today, we offer two articles that are both classic parts of the JPME experience, strategic thinking and the nature of war, but suggest cutting-edge ideas on how we approach the work. U.S. Army War College professors Andrew Hill and Stephen Gerras offer their approach on how strategic leaders should ask questions. As long as there have been staff and war colleges, Carl von Clausewitz's writings have been a part of the mix of military and political science theory, which of late has added systems and systems theory as a focus of research and planning approaches. From the Marine Corps War College, Brian Cole takes us once again to the Baron's Trinity to understand war as a complex adaptive system.

Our Commentary authors address two different subjects, both with important strategic implications. Steven Hendrickson and Riley Post have developed a simple answer on how best to apply operations analysis to special operations. Ryan Tice tells us that we should get serious about the growing likelihood of Great Power competition in the Bering Strait, as he lays out the case for a permanent joint task force in the area.

Features contains a diverse set of discussions about the role of chaplains on the modern battlefield, the Vietnam air war, the revival of al Qaeda, and land force projection across the shore. Seeing chaplains as valuable in a range of tasks beyond the individual spiritual needs of the military, David Leonard describes how commanders can place them where regular troops lack the skill set to succeed particularly in interagency humanitarian operations. At the other end of the conflict spectrum, Robert Angevine takes us to the skies over Vietnam 50 years ago to offer a lesson in adaptation during war. As today's conflicts have evolved since 9/11, Jami Forbes writes that al Qaeda is regaining areas of influence in places we have already fought them and gaining ground in new places we have not, at least not yet. As I have often said to my students over the years, war is a physics problem when it comes to force projection. Brian Molloy agrees, and he discusses how the U.S. Army needs

to approach logistics in the antiaccess/area-denial problem set in the Pacific.

As is always the case with our Recall articles, the past has informative experiences for the present-day warrior to know and understand. Ben Ho takes us to the Battle of the Bismarck Sea in the South West Pacific Area to discuss how gaining maritime superiority was a game of antiaccess/area-denial long before it became a modern catch phrase. In addition, we have recently shifted our book review editor responsibilities to one of National Defense University's brightest rising research associates, Brett Swaney, who has selected three reviews of important books. Along with our Joint Doctrine Update, we bring three articles on how the joint force, joint functions, and doctrine will be adapted to deal with megacities, artificial intelligence, and interagency operations. Looking at a hole in our joint doctrine in dealing with failed megacities, Matthew Metzler, Todd McCubbin, Heidi Fouty, Ken Morris, John Gutierrez, and John Lorenzen suggest changes to Joint Publication 3-29, *Foreign Humanitarian Assistance*, as well as other areas for future joint doctrine focus. Brian Ray, Jeanne Forgey, and Benjamin Mathias help us work out the range of likely impacts of artificial intelligence on joint warfighting. And one of our most prolific joint doctrine authors, George Katsos, returns with an interesting view on interagency operations.

As you can now see, critical and creative thinking leads to writing and discussions on a wide range of issues confronting the joint force and its partners. Remember to pose questions as Einstein suggested. Then write down what you think will make the joint journey more interesting and ultimately successful. When you do, we will be here for your best questions. JFQ

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