



During Berlin Crisis of 1961, group of U.S. Naval Reservists talk to U.S. Army Soldiers who man Checkpoint Charlie, only American checkpoint along Berlin Wall (U.S. Navy Museum)

## Executive Summary

This year has been one of important anniversaries and one of change.

Just this past weekend, the world marked the 100<sup>th</sup> year since the Armistice for World War I, the “war to end all wars,” was placed in effect. On that date, at the 11<sup>th</sup> hour of the 11<sup>th</sup> day of the 11<sup>th</sup> month, the bloodiest war up to that time ended. Or so the world had hoped. Just 25 years later, Allied forces would assault the beaches and skies above Normandy, France, in an unprecedented invasion to roll back the Nazi empire, which, along with Russian

victories on the Eastern Front, would ultimately end that violent period in Western Europe. But that effort would eventually turn into the Cold War, a long struggle between U.S.-led Western powers and Soviet bloc countries. The 30<sup>th</sup> anniversary of the end of that conflict was marked this year, as the Berlin Wall ceased to function as a political and physical barrier between the German Democratic Republic (GDR) and West Germany on November 9, 1989, although official destruction of the wall did not begin until June 13, 1990.

And the anniversaries where we can honor our fallen and celebrate those who survived continue to reverberate. Lest we forget. But what can we say we have learned from this seemingly endless cycle of struggle that results in war? One answer has been to improve how our troops fight together as part of a joint force. To do so, its leaders need to understand the past, both good and bad, and find ways to make our joint bonds strong enough to meet the challenges ahead, even those that may surprise us.

I would offer that our world is in constant motion, and as a result change is what we must always seek to adjust and improve our situations. If you have a setback, a delay, or a loss, you do as the unofficial slogan of the U.S. Marine Corps suggests—you improvise, adapt, and overcome. I would add that we need to be constantly learning both from what we see and from what others experienced. As former Secretary James Mattis asked our professional military education (PME) institutions to do, developing our critical thinking skills and testing our intellectual limits in new and engaging ways are no longer options for a select few. To that end for the joint force, *Joint Force Quarterly* continues to offer discussions about past conflicts and current issues and to frame future concepts and issues in ways that hopefully help each of us better use our minds. With that as a goal, we offer a wide range of ideas to help you keep your intellectual edge. Hopefully, you will read them and send us your best ideas on how to keep improving the joint force.

In the Forum section we have three valuable perspectives on strategic issues. In reviewing the largest element of one of our important international partners, Emily Bienvenue and Zachary Rogers discuss some available opportunities for the Australian army to meet the complex and increasingly challenging threat environment there. Helping us in the world of teaching future strategic leaders, Amy Zalman offers advice on how we can get the most from strategic foresight. As threats seem to be multiplying as the 30<sup>th</sup> anniversary of the Cold War ends, Paul Stockton offers his view on how we can seek to identify issues and potential paths to successfully continuing our military missions in this difficult world.

This year's Secretary of Defense and Chairman of the Joint Chiefs of Staff (CJCS) Essay Competitions featured a record number of entrants from across the PME community. I want to thank all the judges and entrants for their participation and for once again accepting the challenge of determining the best expressions of ideas from those who are our future security leaders. Daniel Hooley's winning essay in the Secretary

of Defense Strategic Research Paper category provides an interesting look at Pakistan's military stance and reliance on nuclear weapons. Speaking to the strategic issues of the security environment in the Pacific, the winning CJCS Strategic Essay Competition (Strategic Research Paper category) by Andrew Rhodes develops a new view of how U.S. power should be used to counterbalance China. And James B. Cogbill, winner of the CJCS Strategic Essay Competition (Strategy Article category) competition, suggests the experiences of Morocco in countering terrorism offers the United States a potentially superior approach to this threat.

In our JPME Today section, Bryon Greenwald, one of our leading professors and an award-winning historian who was instrumental in adding an overseas experience to the Joint Advanced Warfighting School in Norfolk, discusses the value of a student-led, student-focused battlefield history experience within that program and how similar offerings have a positive impact on our PME programs.

In Commentary we present two unique views on modern war, both past and future. As the 20<sup>th</sup> anniversary of the North Atlantic Treaty Organization war over Kosovo is marked, Phil Haun, one of the U.S. Air Force veterans of that conflict and now a historian and Naval War College dean, offers his thoughts on what he experienced then as a fighter pilot and later, after becoming a historian. Confronting conflict below the traditional levels of armed combat is the focus of an important set of ideas from Vayl Oxford, as he offers his take on dealing with 21<sup>st</sup>-century threat networks.

We are fortunate to bring you three distinctively refreshing articles in Features that span from internal improvement suggestions for fostering better jointness and joint operations to separate pieces on two of the five concerns of our National Security Strategy. Dina Eliezer, Theresa K. Mitchell, and Allison Abbe discuss how the military might develop its officers using more than what is required by the current Joint Qualification System. Additive manufacturing—also known as 3D printing—has started to revolutionize a growing number of areas, including the

military, and Jaren K. Price, Miranda C. La Bash, and Bart Land describe how it could improve joint operations. Justin Roger Lynch delivers a valuable case study in military innovation by explaining how British scientists created the Chain Home early warning radar system, the world's first integrated air defense system.

One of the constant challenges in my job is finding useful history articles for our Recall section that provide valuable insights into joint operations. But somehow, we get a really great piece for you every issue. You may have initially scratched your head trying to see how last issue's Civil War article (*JFQ* 94 [3<sup>rd</sup> Quarter], "Flanking the Crater," by John K. DiEugenio and Aubry J. Eaton) fit that requirement, but after reading it, I hope you saw its value for modern joint warriors. This time we go even further back in history as Joseph Finnan, Lee Gray, John Perry, and Brian Lust help us understand joint principles through the lens of the Quebec Campaign of 1759. Along with three informative book reviews and our Joint Doctrine Update, in our Joint Doctrine section Matthew Florenzen, Kurt Shulkitas, and Kyle Bair help us work out the range of likely impacts of artificial intelligence on joint warfighting.

While change is a challenge for the joint force, NDU Press and your *JFQ* team is not immune. After serving as one of our associate editors for the past several issues, we wish Patricia Strait all the best in her well-earned retirement after many years in U.S. Government service. We also want you to know that NDU Press has moved its operations to the second floor of Marshall Hall here at Fort Lesley J. McNair, back to where we were more than a decade ago. Moving a team of eight along with 10 tons of books and equipment caused a bit of delay to our production process, but we hope you will come visit us in our new home. In the meantime, we look forward to publishing the very best ideas from, for, and about the joint force for many years to come. *JFQ*

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