Tactical communications training in Italy.

31st Communications Squadron (James D. Green)

Transformation Trinity

Vision, Culture, Assessment

By BRUCE H. McCLINTOCK

While there is no single model for transformation, certain trends warrant attention. History offers important lessons on the elements of innovation. Peacetime transformation depends on three factors: a coherent and congruent vision, a culture to convert that vision into competing concepts of operation, and a candid assessment of those concepts.

The term *innovation* describes any change in equipment or application, from field radios to weapon systems to organizational restructuring. Some view it as a codeword for strategic change. Rather than redefining the term, it is useful to consider its origins. Innovation is only one aspect of change, a building block of transformation—a dramatic change in how resources are employed. Innovation must precede transformation, though the latter occurs only rarely. In short, innovation is a necessary but not sufficient condition for transformation.

Such meanings suggest the scope of the problem. Most innovation is difficult enough but creating a critical mass is even harder. If "innovation is a crapshoot," as Admiral William Owens has suggested, then there is little reason to prepare for future events. And transformation is worse. A crapshoot is inherently linear; smart players know the odds. On the other hand, transformation is a complex phenomenon involving interactive factors operating simultaneously and resulting in a blend of order and unpredictability.

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Meaning and Method

Each organization handles change differently and innovations occur for many reasons even

within the same organization. Multiple factors act concurrently on institutional theories of change, breaking models of transformation into manageable pieces. For instance, some observers separate American and British innovation into peacetime, wartime, and technological, while others focus on innovation between the wars.[1] Such categories bind the application of models. This article refines paradigms of transformation from numerous sources and develops a new, limited framework. The model offered is restricted to American peacetime transformation. With a focus on transformation, longer periods of peace offer greater opportunities for gradual change. By narrowing the field and blending the elements that surface, a pattern for successful conversion emerges.

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Innovation isn't achieved on command. Theoreticians must interpret experience as a guide to future action. Although more than descriptive, such ideas are not prescriptive. At best they are counterpredictive, helping identify situations when transformation is least likely. Any attempt to bolster innovation must acknowledge the impact of uncertainty, the inability to predict outcomes precisely because of the influence of chance or limits on available information. Uncertainty can influence all levels of events from the strategic to the tactical. The chaotic nature of transformation defies reductionist models that offer linear solutions to complex problems.

Conceptual design of amphibious assault ship.

Attempts have been made to systematize planning to reduce the influence of contingency. After World War I, J.F.C. Fuller sought a scientific framework to understand history and plan for wars.[2] One study offered a way of accounting for uncertainty by hypothesizing on future strategic environments. The common approach is systematized hedging. Deliberate frameworks are helpful but are not the answer. According to another study, "Assumption-based planning is not a panacea. . . . [It] will only be as good as the insight and care of the people doing that planning."[3]

Judgment and Vision

Although insight and intuition are clearly important, there is no simple way to acquire them. Clausewitz refers to this concept as genius. While the terminology has changed there is consensus on how to build intuition to adapt to uncertainty. Strategists from Clausewitz to Fuller agree that to gain intuition, leaders must understand economic, technological, and political factors that influence change. Understanding the international security environment is not a result of cosmic inspiration but of carefully educating leaders about current and potential shifts in the world order. The process of discerning these shifts is not simple, but the added insight is necessary to adapt to uncertainty.

The implementing elements are vision, culture, and assessment. Civilian and military leaders must recognize a changing environment and encourage innovation through coherent visions of the future. The military also must catalyze and nurture the modifications to develop competing theories of victory. And as culture changes, the emerging organization must create assessments to develop the tools to fulfill the original vision. With varying levels of emphasis, this trinity is present in all successful peacetime transformation. Although presented in an order of occurrence, it is important to remember that there is continuous interaction among elements so they defy strictly linear application. The constantly changing facets of transformation repeatedly influence each other. In addition, the elements can act on the strategic, operational, and tactical levels. All levels, however, depend on leaders who are able to accommodate uncertainty.

With strategic intuition leaders can initiate transformation through an innovative vision—the concept of the future identity and mission of organizations. A look at organizations facing change indicates that "the single most determining factor for success in their adaptation is whether or not they have and can exploit an appropriate vision of themselves for decisionmaking."[4] In the realm of transformation, successful innovation depends on civilian and military leaders alike.

Some suggest that leaders must provide service visions because the military is resistant to change. Historians cite the British interwar decision to favor pursuit aircraft over bombers as an example of civilians opposing military parochialism. Although elegant in its simplicity, this example does not explain long-term innovation. Some claim that civilians play only minor roles

Landing craft gliding ashore, Foal Eagle '00.

1st Combat Camera Squadron (Daniel E. Richard)

in advancing innovation and can even do much to stifle it. Legislatures have the power of the purse; thus the military may follow the money rather than the mission at the cost of civilian support. Others cite ineffectual interwar progress on armored warfare by the British and French, who had little need for offensive forces.[5] In other words, a fine line can be drawn between vision and hallucination—the budget line.

Though it may seem that commanders must devise visions that follow national security policy, sometimes the reality is that the military has supported civilian policy while civilians have sometimes followed an emerging military vision. An example is the shift to strategic bombardment before World War II as a result of evolving operational concepts. While it eventually took civilian leadership to bless the vision, the military actually shaped the civilian vision. In other cases, radical environmental changes outstripped policy. Militaries that lack vision are caught short while revolutionaries accommodate dramatic shifts in policy.

Organizational change reveals that civilian and military leaders must articulate their vision to catalyze transformation. But there are many reasons why a proffered vision may be inadequate. Senior officers often cling to outmoded ideas that have little chance of success because of cultural or technical constraints. Just as often, civilians try to force dramatic change on large organizations without allowing them to take effect. In general, it is less important to argue over whether policy shapes strategy—or vice versa—than to recognize that miscalculations in either can lead to failure. The one conclusive factor is that civilian and military visions must be harmonious.

This does not mean that visions must immediately be congruent. The views of one group can shape those of another over time, but the dominant vision must be coherent and compelling. The military, equipped with a consistent, clearly articulated vision, can shape civilian views. In particular, the military vision must stand the test of time because the civilian vision is more likely to fluctuate with changing administrations.

The evolution of amphibious assault demonstrates the significance of congruent, coherent visions. In 1920, the Commandant of the Marine Corps recognized the increasing significance of this mission. His vision did not contradict existing policies. It was generally congruent with the views of other services. In addition, civilian awareness of the Pacific as an important part of the security environment stimulated development of war plans that involved ground and naval forces. Just as importantly, the Marine Corps remained committed to the vision for two decades despite shifting support. This example captures the common themes of most successful transformations.

When the civilian and military leadership share congruent, coherent visions, transformation is more likely. A coherent vision is one that is clearly stated and relatively constant over the longer periods needed for transformation. A congruent vision, on the other hand, is generally accepted by the leadership. A truly congruent vision also shares broad acceptance among the services.

Congruence is difficult to achieve, which helps to explain the infrequency of transformation. Leaders can encourage success by acknowledging the uncertainty present in long-term innovation and recognizing the importance of a consistent vision. Accurate political and strategic assessments that stimulate rather than inhibit innovation are prerequisites to success.

Culture Wars

It takes credible military leadership to foster organizational change if a new vision calls for transformation, but organizational change largely depends on changes to the culture of the broader group. Culture is the system of underlying shared beliefs about the critical tasks and relationships within an organization. Even with multiple subcultures in an organization, a group that shares the overall purpose of the organization has what many theorists call a sense of mission.

transformation depends on openness to competing theories rather than a party line

Culture affects group performance in three ways. Organizations in which cultures struggle for supremacy experience serious conflict. Moreover,organizations resist taking on new tasks that are incompatible with the dominant culture. Finally, changing an organizational culture takes time.

Because the military is comprised of various constituencies, there is an ideological struggle to define theories of victory. Such concepts help determine the hierarchy in organizations. Those who accomplish the tasks most critical to the organization usually lead it. Civilians are less capable of affecting peacetime (versus wartime) transformation because the process often outlasts civilian terms of influence. It takes time for the military to turn an abstract vision based on the emerging environment into concrete tasks and organizations.

Amphibious assault is an example of sucessful change. It was left to subordinates to fulfill the vision and, because of the size of the Marine Corps, the task fell to one officer who converted the need for a new capability into definable terms. He crafted Operations Plan 712, which served as the basis for amphibious assault planning. This theory of victory provided a new identity for the search for a strategic mission.

Organizational culture requires a long-term commitment for success. Many cite promotion opportunities as a vehicle because rank equals power. Power is transferred based on career paths such as carrier aviation, amphibious warfare, and tactical aviation. Although dominant cultures resist change, at least some members must accept the need for change establishing new career paths. A dominant culture can change from the top down if the vision is consistently and clearly stated and enough leaders recognize change in the strategic environment.

Exploration and Evaluation

With a vision of military roles based on the future, credible leaders can nurture new groups to develop appropriate theories of victory. Still transformation depends on openness to competing theories rather than a party line. Assessment is necessary for two reasons. First, uncertainty about future threats requires wargames and simulations that explore the shape of possible wars. Second, the costs and benefits of new tools and tactics can only be explored through critical evaluations that draw lessons. Germany applied this approach in developing *Blitzkrieg* as the Navy introduced carrier aviation in the interwar years. Both were peacetime transformations that brought wartime success. Exercises and evaluations compensate for uncertainty and allow incremental improvement. Appraisals validate vision and uncover faults that refine and strengthen the original concept.

Assessment involves exploration and examination. Exploration is unrestricted thinking that encourages new theories of victory and ideas to support them. It harnesses ideas about theories of victory and applies them to postulated environments. Its intent is creating a practical understanding of the role of new theory in military and policy operations. This differs from conceptual thinking done as culture matures. The symbiotic relationship between culture and assessment is essential. Without a culture open to new theories, the original vision may be stifled. This kind of outlook gave rise to the use of terms like *battleship sailor* to describe myopic thinking.

Examination uses various tools to determine which theories work best. It also scrutinizes the potential of new theories prior to implementation. Unlike the exploration phase where ideas are widely accepted, examination allows for failure. It can include campaign analysis, trade studies, systems analysis, prototypes, and exercises.

Air Force News (Lance Cheung)

Flying in *glass cockpit* on C–141C.

The lessons that emerge must be openly considered and applied to be useful. The decision of Air Corps Tactical School and Royal Air Force theorists to discount apparent shortcomings in their unescorted bombing theory led to severe combat losses, demonstrating the danger of incomplete or ignored examination.

Bomber theory prior to World War II stressed one critical element of assessment—linkage. A connection must exist between the vision of an expected environment and current strategy and operational realities. Strategy can help define the context for evaluating new warfighting concepts. For example, operational realities limit the range of theoretical conflicts. This factor is crucial in honest assessment because exercise environments can be tailored to circumstances independent of reality. Intentionally or not, simulation design that ignores reality can incorrectly prove untested or operationally unrealistic theories. Between 1921 and 1940 the Armed Forces conducted many fleet landing exercises to demonstrate concepts of amphibious landing. The Navy and Marine Corps experimented with every approach their equipment allowed. The open nature of the debate helped refine concepts captured decades earlier. Exercise evaluation reinforced the idea that amphibious assault was possible with certain tactics but would not be easy. Forthright assessment led to a new approach that proved vital in World War II.

Lastly, assessment need not be soley technology based. Transformation modelling can intentionally discount the role of revolutionary systems. Not every transformation involves new equipment. Amphibious assault did not depend on radically new technology. In addition, technology driven transformation usually involves a combination of technologies unanticipated until highlighted by assessment. Finally, technology changes the techniques of war but not its nature. In the words of one analyst, "It is not merely the tools of warfare but the organizations that wield them that make for revolutionary change in war."[6] While technological changes have catalyzed some innovations, they are not necessary or sufficient for transformation. Since few major transformations depend solely on it, technology is considered part of the strategic environment or a factor scrutinized by the assessment portion of the model.

The above model highlights characteristics of military transformation. Change is most likely to occur when leaders articulate coherent visions of future warfare and the military culture allows advocates of that vision to develop competing theories of victory—theories that are openly assessed. The strategic environment constantly influences these continuously interacting factors.

The paradigm described here provides a general framework for studying peacetime transformation. By acknowledging the uncertainty inherent in long-range planning, it offers an approach where understanding the emerging strategic environment develops the critical insight (or genius) needed to form visions for change. **JFQ**

NOTES

[1] See Stephen Peter Rosen, *Winning the Next War: Innovation and the Modern Military* (Ithaca, N.Y.: Cornell University Press, 1991) and Williamson Murray and Allan R. Millett, eds., *Military Innovation in the Interwar Period* (Cambridge: Cambridge University Press, 1996), pp. 1–5.

[2] J.F.C. Fuller, *The Foundations of the Science of War* (London: Hutchinson and Co., 1926), pp. 21–23, 30–46, 324–27.

[3] James A. Dewar et al., *Assumption-Based Planning: A Planning Tool for Very Uncertain Times,* RAND Report MR-114-A (Santa Monica: The Rand Corporation, 1993), p. 59.

[4] John K. Setear et al, *The Army in a Changing World: The Role of Organizational Vision*, RAND Report R-3882-A (Santa Monica: The Rand Corporation, 1990), p. vi.

[5] Eliot A. Cohen, "A Revolution in Warfare," *Foreign Affairs*, vol. 75, no. 2 (March/April 1996), pp. 51–52.

[6] Ibid., p. 46.