

Tomorrow's "Cyber Warriors"

by

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"Equipment for the cyber warrior is not science fiction. Development is underway—and includes multisensor-aided technology, digital battlefield communications, intelligent minefields, precision munitions, night imaging, and integrated multi-media information transport. The cyber warrior is almost completely autonomous with gear that allows for the collecting, processing, analysis, and interpretation of information critical to a mission."¹

THE AMERICAN warriors of the 21st Century will most certainly be children of technology and the information sciences. These cyber warriors, however, will also be very much a part of the training, and the military and civilian cultures that surround them.

The present is indeed a confusing time. Tomorrow's soldiers are immersed in mixed signals from the conflict between a developing "business-scientific, management-professional" culture and the gradually eroding traditional military culture of yesteryear.

The battlefield of tomorrow is also in constant transition. The warriors of the next century may face a myriad of threats all the way from "non-state actors, such as terrorists, to advanced states."² Recent U.S. military endeavors such as the Kosovo Conflict, anti-terrorist operations, and the host of peacekeeping efforts from Bosnia to Somalia, point to a series of diffuse and highly political challenges facing U.S. interests in the future. Precision guided munitions, stealth technology, satellites, and advances in computers, communications, and information have impacted the conduct of modern military operations as well as their command and control. "New information systems have improved target acquisition and the ability to attack an enemy's infrastructure. As a result, many analysts have suggested the imminence of a revolution in military affairs (RMA) brought about by the integration of information."³ Information targets may now have become strategic centers for crippling the more advanced states. Some of the critical targets within the U.S. are now information centers such as the "Federal Fund Electronic Switchboard at Culpeper, Virginia, the Alaska pipeline, the Internet, and the Air Force Satellite Control Network."⁴

With soldiers outwardly draped in technology, perhaps the most difficult question confronting futurists is the "inward" equipment necessary for cyber-warriors fighting in the new age of the RMA. This article will briefly examine whether the current "business-scientific, management-professional" culture is inwardly meeting the demands of tomorrow's cyber-soldier, or if a re-birth of traditional military culture is perhaps necessary.

Which elements of each culture should shape the American fighting force of the next century? Have traditional institutional values and interactions already been permanently altered? Does the changing battleground of the next century described by futurists require a new "business-scientific" military? Looking ahead, both military historians and futurists would agree that technology alone cannot be a panacea for a military organization and culture not prepared for the challenges of a new age.

I. Traditional Military Culture

The notions of traditional military, and institutional values and the military professional code indeed convey a wide variety of concepts and characteristics. Seen together, these models paint a picture of the values, beliefs, and world-views of a traditional military culture and society that has historically played a significant role in American military thought and organization. This is a military that emphasizes obedience, order, hierarchy, authority, discipline, ceremony, suffering, and fraternity. It is a vertically aligned organization that encompasses its member's homes, families, and lives. Its members are seen as realistic, conservative and religiously patriotic. A narration of a soldier's life story offered by Colonel Dandridge Malone perhaps best summarizes the uniqueness of traditional military values:

"He tells the soldier's story from the time he leaves home, a young recruit, on his way to boot camp...the anxiety and confusion at training schools, the friendships, the coarseness, the constant reassignments and promotions, the compromises and satisfactions of the military marriage; on to Vietnam, the fire fights, the fear again, the deaths of friends; survival and return; the first glimpse of children unseen for a year----and if all these wondrous things, Malone draws at the end.....which thousands of us share in whole or part, can, by the mindless logic of a soulless computer, programmed by a witless pissant ignorant of affect, be called, just another job, then by God, I'm a sorry, suck-egg mule."⁵

II. The New "Business-Scientific Management-Professional" Military

The ideas and subculture influencing today's military professional are distinctly removed from those of the traditional soldier. The modern American soldier is intensely more occupationally rooted. Political considerations not only dominate the heart of the military professional's new mission orientation, but they infiltrate every aspect of their culture. Today's military professional is grossly more socially and politically conscious, more technically specialized, and more likely to have shared functions and ties to civilian businesses and society. The military society now surrounding these professionals is dominated by commercial business paradigms and theories of scientific management. As Wood concludes in his detailed study of junior officers: "the force will become more occupational, attrition will be high, and the members will become more like 'professionals in the military' than 'military professionals'."⁶

The extent to which this culture has come to dominate American military thinking was apparent in the services wholesale adoption of Total Quality Management (TQM) in the 1990's. This scientific management scheme when applied to combat organizations was intensely business/manufacturing related, tended to quantify human variables, relied on too many charts

and graphs, and simply lacked "heart". Marginal analysis and "management" theories such as TQM, Management by Objectives (MBO), and Operations Risk Management (ORM), often find themselves in conflict with the more traditional "human-oriented" principles of military leadership.

Along with upheavals in leadership and management, the modern military subculture has also become more closely aligned with liberal civilian society in its notions of equality, authority, diversity, fraternity, and individualism. The progression of American social democracy and the melding of these concepts into military society often contrast openly with traditional military principles and the service's goal of "transforming a group of individuals into an efficient unit for the purpose of inflicting extreme and deliberate violence."⁷ Modern technology is isolating individuals and leaders in "virtual crowds" and even "virtual commands". Patterns of organizational authority are changing from "domination" to "persuasion." Diversity, in many scenarios, is now assumed to strengthen the military organization. Elements of fraternity once associated with combat are being altered with patterns of inclusion and sensitivity training.

Amidst this vast business-scientific, managerial-professional culture that envelops today's warrior, one must wonder what kind of soldier will fight the wars of tomorrow? Is a more politicized and technical modern soldier better equipped for the battles of the next century?

III. Lessons from the Gulf War

Research from military futurists, and analysis from the Gulf War conflict seems to point to conflicting views over which elements of the traditional or modern military culture should dominate the future fighting force. The rising level of specialty and technical expertise apparent in today's "business-scientific" culture appears to be more than consistent with demands of next century's battlefields. Changing patterns of organization and authority are less than clear. Information on the battlefield will increasingly allow for the traditional vertical organizational hierarchy to dissolve into networks and groups. While information in the conflicts of the future may lead to greater dispersion and autonomy, a strict and unified chain of command will remain a necessity. The "art" of military leadership, the human element of interaction, decision-making, and ethics will also undoubtedly continue to be a decisive factor in any conflict. Finally, current military cultural trends in "political consciousness" and increasing the modern soldier's understanding of the political operating environment will be critical to the future range of military endeavors.

IV. A Blueprint for a Culture in Transition

In this midst of this clash between traditional and "business-scientific" cultures, coupled with an uncertain future fighting environment, it is indeed easy for theorists and historians to look behind and call for a blind reinstatement of traditionalism. Such attitudes, however, do not fully fathom the degrees to which the traditional subculture has already been transformed. "The problem with deep, fast, and rampant innovation is not getting people to accept the new but to surrender the old."⁸

The first step towards striking a delicate balance between the two subcultures involves achieving an understanding of the new "business-scientific, management-professional" culture and its implications on the future conduct of the military. This realization, however, must look beyond simple indicators of change such as retention problems, perceived "values crisis", or increasing occupational attitudes. It must probe critically and progressively into the roots, focusing on the internal and external variables that have created and shaped this new military culture.

With one eye clearly focused on the demands of the future battlefield, many elements of this emerging culture will positively contribute to the crafting of tomorrow's cyber-warriors. The changing nature of military authority, for example, while seeming detrimental to the traditional culture of an older generation of warriors, may actually favor the future soldier. "The technology of warfare is so complex that the coordination of a group of specialists cannot be guaranteed by authoritarian discipline. The complexity of the machinery and the resultant interdependence produce an important residue of organizational power for each member."⁹ Morris Janowitz, in the mid 1970's, noted this change in the nature of authority from "domination" to "manipulation". "Manipulation", according to Janowitz refers to influencing behavior based on achievement, goals, indirect techniques, and group persuasion.¹⁰

Achieving a proper analysis of any change within the military subculture can only begin with the analysis provided by long-term studies. It is here that an extreme paucity of critical research exists. Currently, no long-term studies have been conducted on changing values or patterns of interaction within military society that could be useful in shaping the warrior of the information age.

Barriers to critical research within the military are many. In an organizational bureaucracy, such as the military, driven by so many external variables, establishing long-term programs and studies is a daunting task. With the rank structure and vertical hierarchy within the services, a certain level of top-down "groupthink" exists leading to a majority of the studies tending to support current policies. For example, it was truly no path of career progression in the early 1990's for a researcher to critically question the need for Total Quality Management.

A final roadblock in long-term analysis lies in the extensive bureaucratic barriers that exist which discourage critical studies from outside agencies. The cooperation and support of the Department of Defense and military service are required, and the privacy of service members is vigorously protected. The modest goal of this brief look at the changing military subculture and future of warfare is that it might serve to re-direct and spark future long-term research shaping the warrior of the information age.

Striking a balance in the clash of military cultures also involves seeking out new modes of building institutionalism in an increasingly occupational organizational climate. In his Institutional/Occupational (I/O) thesis, Charles Moskos several key areas in which the American military can foster an institutional identity. This identity is not always driven from within the military.

"On both the military and civic sides, military people must be given justification for the utility of the armed forces which may be enhanced by patriotic and

military rituals. They must be accompanied by a civic identification with the nation and an appreciation of the service member's role in the military organization."¹¹

Immediate leaders are also noted by Moskos to play the most significant role in the socialization of the military member. "Immediate leaders are the institution to their subordinates."¹² Promotion criteria, he claims, must favor those leaders who are most concerned with group improvement and who are willing to devote extra time to mentoring subordinates.¹³ Leaders must not view themselves as "pawns in the grip of larger forces", but they must emphasize the distinctive, value driven nature of the military forces. "After they have articulated the unique and awesome responsibilities of the military institution, the senior military leaders must be seen as concerned and effective in protecting members' rights and entitlements."¹⁴

A final method of increasing socialization and institutionalism studied by Moskos is the system of professional military education. Moskos finds that "no real evidence exists that professional military education programs, as presently designed, increase holistic or institutional thinking in the career force."¹⁵ Moskos proposes necessary changes in the content, format, and tracking of professional military education. To avoid "ticket-punching" quality education, he advises not even entering it in a person's formal record. Continuing education programs should include formal and informal seminars, realistic reading lists, and programs designed and administered by local commanders. Such programs would be less selective, more voluntary, and would seek to broaden experience over simple preparation for promotion. Building institutionalism, according to Moskos, does not revolve "around spending time at the officers' club, spouse's participation in the military community, or on-base residence. It does not imply a turning back of the clock, but it entails the establishment of a new balance after a long period of indiscriminate acceptance of the marketplace mentality."¹⁶

Preserving institutionalism against the "marketplace mentality" also involves a commitment of the services to define, shape, and communicate to civil society those attributes valued as necessary in its combat soldiers. In terms of values and motivation, many elements of traditional combat role motivation hold true for both today's and tomorrow's warriors. In the early 1960's Morris Janowitz listed three major explanations of the way individuals perform in combat roles. "The first asserts that their performance is motivated by identification with some formal symbols of a particular organization or its traditions."¹⁷ A second explanation offered by Janowitz is that soldiers behave in particular ways in combat to adhere to some typically labeled "masculine" code of behavior such as "being a man." A third explanation Janowitz suggests is in terms of a soldier's relationship to larger society, patriotism, family, or the flag.¹⁸

A commitment to preserving and defining the warrior ethic in a peacetime military organization bombarded by pressures of social democracy is a challenging task. In an era of limited resources, it is far easier to give in to social pressures, adopt the business-management language of those cutting the budgetary pieces of the pie, and gradually whittle away at the warrior culture. In defining this combat ethic, however, one must not rely too heavily upon traditionalism but must keep an eye forward on the changing nature of future warfare. In its combat roles, the military organization must seek an environment that fosters combat "team" concepts---individuals with technical and tactical expertise, heroic leaders and improvisers, aggressive members who strive

to win, accept suffering, physical and emotional hardships, and the "insensitivity" often necessary in the military profession.

With its sacred trust of managing violence, an effective military organization must be a discriminator in its combat arms. This warrior ethic must be seen as an absolute standard for qualified individuals with no preference given to social, gender, or racial considerations. These combat values must be assigned a significant role in the training of soldiers along with the current mandated courses of sensitivity, inclusion, and equal opportunity.

An important element of this dedication to the warrior spirit is the need for service members and senior leaders to educate and communicate these combat values to civilian society. Senior leaders, resting on that bureaucratic bridge between military and civilian societies, must continue to fight against policies and practices that would adversely impact the heroic leaders and followers of tomorrow. Preserving the warrior spirit goes beyond notions of professionalism. As Samuel P. Huntington concludes in his work, *The Soldier and the State*:

"Today, America can learn more from the military, than the military from America. The greatest service they can render is to remain true to themselves and serve in the military way. If they abjure the military spirit, they destroy themselves first and their nation ultimately. If the civilians permit the soldiers to adhere to the military standard, the nations themselves may eventually find redemption and security in making that standard their own."¹⁹

A final weapon in the battleground of the traditional and business cultures lies in the services need to reward and encourage the human "art" of leadership. Leaders are the key to preserving institutionalism and the warrior spirit in the services of tomorrow. The American military organization is more than determined to build, train, and encourage its leaders. Volumes of literature surround military leadership, and classes and seminars are conducted at all levels of military education. Much of its leadership training, however, is more devoted to issues of scientific management, marginal analysis, and other business oriented theories. What is needed is a greater focus on the more difficult to define "art" and human component of military leadership. Advances in technology and information and their tendency to isolate individuals into "virtual commands" demands more human interaction of the future military leader. "E-mail commanders" must step away from their keyboards and discover the human elements key to successful leadership.

W.J. Wood, in his book, *Leaders and Battles*, denotes leadership as "an exceptional skill in conducting a human activity."²⁰ In his study of successful combat leaders he finds that "battles can be won by the minds of leaders, the art of leadership is embodied in the individual, and that this art must be based on certain attributes."²¹ Wood further proposes that forces in warfare exist that test the unique qualities of military leaders. These forces are: danger, chance, exertion, uncertainty, apprehension, and frustration. Personal attributes of successful military leaders such as courage, will, intellect, presence, and energy, allow them to overcome what Clausewitz labels as this "fog of war."²²

In its march toward the twenty-first century, the American military must balance its imported business management paradigms with the pursuit of "artful" leaders of courage and human presence. Future leaders must be evaluated and promoted less on statistical management successes and more on human variables. While the peacetime, occupationally-minded nature of the modern services makes it difficult, military leadership must stress its unique qualities separate from successful civilian companies.

The molding tomorrow's cyber-warriors has already begun. As the traditional and modern "business" cultures continue to collide, a unified sense of purpose must emerge looking forward. As Anthony Eden wrote in 1951:

"We must be bold and vigilant lest daily cares cloud our longer vision of the task that lies ahead and of the fair fortunes at our command....But this unity, this understanding, this sense of interdependence is the heart of the business. Without it we shall make no headway. With it there is no fair ambition we cannot realize."²³

Notes

1. Arsenio T. Gumshad, II. The Profession of Arms in the Information Age. *Joint Force Quarterly* 15: 14-20 Spring 97', p. 17.
2. Gumshad, p. 18.
3. Lt. Com. Jeffrey A. Harley, USN. Information, Technology, and the Center of Gravity. *Naval War College Review* 357: 66-70. Winter 97', p. 66.
4. Gumshad, p. 18.
5. Charles C. Moskos and Frank R. Wood, *The Military: More Than Just a Job?*, (Washington, D.C.: Pergamon-Brassey's International Defense Publishers, 1988), p. 71.
6. Frank R. Wood, *U.S. Air Force Officers: Changing Professional Identity and Commitment*, Diss. (Northwestern University, 1982), p. 163.
7. John Luddy. "Sensitive Killers: A New Age Dawns at the Pentagon". *World & I*, 9:378-391, Nov '94, p. 380.
8. James Stavridis. "The Second Revolution". *Joint Force Quarterly* 15: 14-20 Spring 97', p. 13.
9. Morris Janowitz and Roger W. Little, *Sociology and the Military Establishment* (London, England: Sage Publications, 1974), p. 59.
10. Janowitz, p. 59.

11. Charles C. Moskos and Frank R. Wood *The Military: More Than Just a Job?*, (Washington, D.C.: Pergamon-Brassey's International Defense Publishers, 1988), p. 287.
12. Moskos, p. 287.
13. Moskos, p. 287.
14. Moskos, p. 288.
15. Moskos, p. 289.
16. Moskos, p. 291.
17. Morris Janowitz, *The New Military: Changing Patterns of Organization*, (New York, New York: Russell Sage Foundation, 1964), p. 204.
18. Janowitz, *The New Military: Changing Patterns of Organization*. p. 205.
19. Samuel P. Huntington, *The Soldier and the State: The Theory and Politics of Civil-military Relations*. (New York, New York: Vintage Books, 1964), p. 466.
20. W.J. Wood, *Leaders and Battles*, (Novato, California: Presidio Press, 1984), p. 2.
21. Wood, p. 2.
22. Wood, p. 3.
23. Eden, Anthony as quoted in *The President and National Security Policy*, (New York, New York: Center for the Study of the Presidency, 1984), p. 4.

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