

**STRATEGY
RESEARCH
PROJECT**

The views expressed in this paper are those of the author and do not necessarily reflect the views of the Department of Defense or any of its agencies. This document may not be released for open publication until it has been cleared by the appropriate military service or government agency.

LEADERSHIP CHALLENGES IN THE DIGITAL WORLD

BY

**LIEUTENANT COLONEL JAMES H. NUNN
United States Army**

DISTRIBUTION STATEMENT A:

**Approved for public release.
Distribution is unlimited.**

19970623 168

USAWC CLASS OF 1997

U.S. ARMY WAR COLLEGE, CARLISLE BARRACKS, PA 17013-5050



DISTRIBUTION STATEMENT A:
Approved for public
release. Distribution is
unlimited.

USAWC STRATEGIC RESEARCH PROJECT

LEADERSHIP CHALLENGES IN THE DIGITAL WORLD

by

LTC James H. Nunn
United States Army

Col John A. Bonin
Project Advisor

The views expressed in this paper are those of the author and do not necessarily reflect the views of the Department of Defense or any of its agencies. This document may not be released for open publication until it has been cleared by the appropriate military service or government agency.

U. S. ARMY WAR COLLEGE
CARLISLE BARRACKS, PENNSYLVANIA 17013

ABSTRACT

AUTHOR: James H. Nunn (LTC), USA

TITLE: Leadership Challenges in the Digital World

FORMAT: Strategy Research Project

DATE: 15 April 1997

PAGES: 27

CLASSIFICATION: Unclassified

Today's leaders are faced with new challenges as we learn to function in a rapidly changing digital world. As leaders are flooded with a vast and continuous flow of information made available by digital systems they must learn to make the correct decisions in a timespan decreased by the speed of today's operations. More information; less time: How do we maximize the capabilities of information age technologies to improve both the science and art of war? This paper addresses three critical challenges: 1. Recruiting and retaining the quality soldiers we need to maintain military dominance in a digital world; 2. Changing and improving training methods and techniques to maximize the capabilities of information age systems; and 3. Adjustments required to leadership skills to lead digitized warriors. Technology is only as good as the soldiers that use it. The art of war as described by Sun Tzu will not change as we transition from an industrial based army to an information based army. Technology and information give us the capability to "Know Ourselves, Know the Enemy and Know the Terrain" better than ever in the past; but the basic keys to success remain the same.

TABLE OF CONTENTS

INTRODUCTION.....	1
RECRUIT AND RETAIN QUALITY SOLDIERS	4
TRAINING SOLDIERS & LEADERS TO MAXIMIZE CAPABILITIES OF THE DIGITAL ENVIRONMENT.....	9
LEADERSHIP STYLE & SKILL ADJUSTMENT.....	17
CONCLUSIONS.....	26
ENDNOTES.....	29
SELECTED BIBLIOGRAPHY.....	31

To be successful in the digital environment we must learn to think differently.

The leaders who are ultimately successful in shaping the future are already scanning the next intervisibility line and beyond to figure out how to approach this new battlefield.

MORE INFO....SHORTER DECISION CYCLE... = CORRECT DECISION ???

Today's leaders are faced with new challenges as we learn to function in a rapidly changing digital world. Leaders are flooded with a vast and continuous flow of information made available by digital systems. They must learn to make the correct decisions in a timespan decreased by the speed of today's operations. More information with less time to react challenges leaders to figure how to master the requirements of the information age world and digital battlefield. It also challenges us to maintain a quality force and train our subordinates to skillfully function in this complicated digital world. *If we are to successfully deal with the rapid changes resulting from the digital environment then we must recruit and retain quality people, develop new training methods to allow our soldiers and leaders to maximize the capabilities of new technology, and reinforce basic values while adjusting leadership styles to empower the 21st Century soldier*

Change is occurring faster than ever before and the military has not often demonstrated the capability to rapidly deal with change. Captain Sir Basil Liddel Hart wrote in *Thoughts on War*; "The only thing harder than getting a new idea into the military mind is to get a old one out." "Philosophers and scientist have shown that adaptation is the secret of existence. History,

however, is a catalogue of failures to changes in time with the need. And armies, which because of their role should be the most adaptable institutions, have been the most rigid--to the cost of the cause they upheld.”¹ Army Vision 2010 points out that historically, we have not had the exact Army we needed when we needed it. Still, we were never truly wrong because we built an Army with a core set of capabilities and infused it with the agility and flexibility to adapt to domestic or international demands as they arose. The future will demand more... the modality of agility will be even more essential to our ability to adapt to a dynamic strategic environment. We will need to continuously leverage technology to ensure our force has the requisite advantage to preclude conflict if possible, but to win decisively if necessary, and to leverage the capabilities of our allies and coalition partners. In the aggregate, we must “lighten up the heavy forces and heavy up the capabilities of the light forces.” Ultimately, we must always be assured of victory and certain we will never be forced to negotiate from a position of weakness.²

For the U. S. Military to work through the changes required in a digital world we must not repeat history and set about on a course to prepare our soldiers and leaders for the digital world. Niccolo Machiavelli wrote in *The Prince* “There is nothing more difficult to take in hand, more perilous to conduct, or more uncertain in its success, than to take the lead in the introduction of a new order of things.”³ One of the great challenges of our leadership is to use the capabilities of the digital world to maintain our strategic military dominance. Force XXI and Army After Next (AAN) are two of the major programs the Army is using to help guide the military as we move into this ever-changing environment.

General Sullivan and the Secretary of the Army describe Force XXI as the reconceptualization and redesign of the force at all echelons, from the foxhole to the industrial base, to meet the needs of a volatile and ever changing world. It will be a force organized around information and information technologies. Its purpose is to deter those who oppose us, to compel when deterrence fails, and to reassure our friends and allies around the world that they can count on us. It will also stand ready to support disaster relief and humanitarian efforts within our land.⁴ AAN is the Army's effort to look past Force XXI and start the process of looking at what the Army should look like 15 to 20 years from now. Force XXI and AAN are making great strides toward identifying and working solutions to the problems of the future. As the U.S. Army attempts to create a force for the future that leverages technology to ensure we win future battles; it is important to always remember that leaders and soldiers win wars, not material. Technology is only as good as the soldiers that use it. The art of war as described by Sun Tzu will not change as we move from an industrial based army to the information age army. Technology and information give us the capability to "Know Ourselves, Know the Enemy and Know the Terrain"⁵ better than ever in the past; but people, training and leadership are the keys to success. To maximize our information-age technology the military must recruit and retain the quality workforce required to survive and thrive in a digital environment, develop new training methods to allow our soldiers and leaders to maximize the capabilities of new technology, and reinforce basic values while adjusting leadership styles to empower the 21st Century soldier.

I. RECRUIT AND RETAIN A QUALITY WORKFORCE

“An army raised without proper regard to the choice of its recruits was never yet made good by the length of the time.” Flavius Vegetius Renatus⁶, *Military Institutions of the Romans*, c. AD 378

Innovative organizations make use of the talents and ideas of their people. The soldier of the 21st Century has at their command powerful technologies that give them access to a depth and range of information that was formerly restricted to those at the top. Networked technology takes power from the head of an organization and distributes it among those who comprise the hands. Power is thus vested at every level in today's organization: this is what makes them flexible and lean.⁷ The soldier who is the gate guard at a crossing point in Bosnia makes decisions that affect the strategic situation, so we must recruit and retain individuals that possess the ability to learn to make the correct decision. The first leadership challenge is to **recruit** quality people that can handle the skills and responsibilities they are empowered with and then provide an environment that allow us to **retain** them in the military. Army Vision 2010 states that at the very heart of our strategy for the future is our continuing commitment to a Total Quality Force. The challenging global security environment, the complexity of emerging technologies, and the diverse missions being assigned to the Army will require men and women of intelligence and dedication, in the active and reserve components, who are able to adapt quickly to the missions at hand. ⁸.

The U.S. Army Recruiting Command (USAREC) mission is to **recruit**, with integrity, the highest quality individuals to meet the skill levels and structure of the regular Army and Army Reserve.⁹ Their challenge is to find quality individuals with the skills necessary to function in a high tech demanding environment. The military must be able to compete with industry for quality people as both groups attempt to establish workforces that will keep them competitive in the future. The Army Recruiting Homepage is a good example of using the Internet to try to attract individuals with an interest in the military and enough computer smarts to get on the Internet. The homepage sells the Army as the most technologically advanced and highly skilled fighting force in the world. The Army Recruiting Homepage using the word TEAM (Training, Education, Adventure and Money) to get young people interested in joining the military. Hot links allow interested individuals to gather large quantities about the military while sitting at home and then electronically mail a recruiter for additional information. Use of the Internet to improve recruiting of individuals with digital capabilities is good but USAREC also need to explore other means to recruit quality soldiers. One way is to benchmark off corporations trying to get their message across like the Marriott Corporation that installed kiosks at eight universities to interest graduating students in joining their company. The Kiosk provides an interactive program that informs the person about the firm, outlines various career opportunities and salaries, and answers questions they may have.¹⁰ High tech weapon systems require individuals with interest in computers so why not put a kiosk in areas (like at computer store or high tech arcades) that are frequented by individuals with some knowledge on using computers and other systems.

Skill convergence between the military and civilian high tech systems may help the military quickly train new soldiers for certain skills. Nintendo 64 and other high tech arcade games are training the future tank gunners and fighter pilots. Most adults fail to see how children learn with electronic games. The common assumption is that these mesmerizing toys turn kids into twitchy addicts and have even fewer redeeming features than the boob tube. But there is no question that many electronic games teach kids strategy and demand planning skills that they will use later in life.¹¹ The Super Nintendo warriors that surf the Internet with ease are probably the type of individuals the Army needs to recruit for certain critical information age skills in key career fields. The bottom line is modern weapon systems and battle command system require a technology competent workforce. The impact of recruiting and retaining quality soldiers will be felt at all levels in the military.

Once a major efforts is made to recruit and train the right type of individual, we must **retain** them in the service at some level. Too often the military expends vast quantities of resources training military personnel only to see them depart the service after their first enlistment. Quality of life, challenging work and a learning environment are essential to retaining quality personnel. Maintaining appropriate force levels are also key to keeping good people in the military. As the military is reduced and missions increase soldiers are overtasked. Quality competitive individuals are going to leave the military if we can not provide them some sort of job security, stable work and a quality lifestyle environment. The military needs a force structure, both active and reserve, that can accommodate military requirements and provide a quality of life that will cause soldiers to stay in the military. Additionally the military need to reinvest money in reenlistment bonuses to keep soldiers in high tech fields in the military. We

underestimate the value of the knowledge learned by combat soldiers fielding new weapon systems like the M1A2 and Paladin howitzer. To retain quality soldiers we must provide financial compensation or we will lose the large investment we expended training these warriors.

Since realistically all soldiers will not stay in the military we need innovative strategies to utilize those that decide to leave the active service. The National Guard and the Reserves must capture the best of those soldiers. They need to be flexible enough to accommodate their non-military work requirements while finding means to sustain the skills learned at great cost to the nation. Our capability to expand to deal with more than one major regional conflict depends on the ability of the Reserve Components to quickly mobilize and provide trained soldiers. The Bold Shift program designed by Forces Command is moving in the right direction to upgrade the overall readiness of a force that fully integrates the Active and Reserve Components of America's Army but more is needed.

How do we make sure that the knowledge and experience of soldiers leaving Force XXI and other high-tech units is not lost? One way would be to retain them in a guard or reserve status and then use distant learning or other training methods to sustain the perishable skills they acquired while in the military. We expend a lot of time and resources training them so we must make an effort not to totally lose their skills and service. Using the M1A2, our first digital tank, as an example; we could get tankers departing M1A2 units to join a reserve organization that is a roundup type unit to an active M1A2 battalion. The tanker is given software and maybe some key interface items like a commander's control handle assembly that could run on a home computer to keep him proficient on gunnery skills. A similar system called Crew Station Trainer

(CST) is used to train new M1A2 tankers today at Ft. Hood. It is well within our capabilities to export an affordable training package to M1A2 tankers that decide to leave active duty but still want to serve the nation in a different capacity. This digital unit could then conduct hands-on training as required with its roundup unit and in the event of mobilization the train-up time to get this digital unit prepared to fight should be reduced. In an Army that is downsizing with high priced equipment it makes sense to find ways to better utilize our two most critical resources: material and people. .

It is evident that information age technology increases the battlefield commander's effectiveness. However, we must not lose sight of the fact that the soldiers operating this technology is every bit as important as the technology itself. Technology does not always reduce the soldiers workload. We must recruit and retain soldiers that can handle large information workloads and are capable of learning the cognitive skills required to operate high tech equipment.¹² Additionally we must train soldiers and leaders to maximize the potential of digital technology.

II. TRAIN SOLDIERS AND LEADERS TO MAXIMIZE CAPABILITIES OF THE DIGITAL ENVIRONMENT

“In no other profession are the penalties for employing untrained personnel so appalling or so irrevocable as in the military.” General of the Army Douglas MacArthur, *Annual Report of the Chief of Staff, U.S. Army*, 1933¹³

In a complex world of constant change, where knowledge becomes obsolete every few years, education can no longer be something that one acquires during youth to serve for an entire lifetime. Rather, education must focus on instilling the ability to continue learning throughout life.¹⁴ In War and Anti-War, Alvin and Heidi point out that Third Wave militaries (information age) place a massive emphasis on training and education at every level, and their systems for delivering the right training to the right person are part of the knowledge-distribution process. As in business, learning, de-learning, and re-learning must become a continuous process in every occupational category in the military.¹⁵ In looking at the challenges of maximizing the capabilities of the digital world four areas need to be addressed. These areas are **creating a**

learning organization, “Just in Time Learning”, virtual reality training, and improving our cognitive capabilities.

For the military to survive and maintain a competitive edge in times of rapid change it must be a **learning organization** that trains individuals to maximize the capabilities of information age technology. Digitization of the battlefield brings more information faster than ever before and will result in a need to empower individuals at all levels to make decisions quickly. Field Marshall Erwin Rommel said, “The commander must be at constant pains to keep his troops abreast of all the latest tactical experiences and developments, and must insist on their practical application. He must see to it that his subordinates are trained in accordance with the latest requirements. The best form of welfare for the troops is first-class training, for this saves unnecessary casualties.”¹⁶ Rich Teerlink at Harley-Davidson worked to create a stronger organization through training and organization. He said, “If you empower dummies, you get dumb decisions faster.” This advice applies today as we teach a new generation how to fight digital.

Effective leaders build an operating environment for learning in several ways according to Peter Senge in an article entitled Leading Learning Organizations. Senge states that the first way leaders build an environment for learning is through articulating guiding ideas. Guiding ideas are different from slogans or the latest management buzzword. They are arrived at gradually, often over many years, through reflection on an organization’s history and traditions and on its long-term growth and opportunities. The power of guiding ideas or vision derives from the energy released when imagination and aspiration come to together.¹⁷ The Chief of Staff of the Army’s vision for the 21st century Army is, “a total force trained and ready to fight,

serving our nation at home and abroad; a strategic force capable of decisive victory, as the cornerstone of readiness, training remains the Army's most important peacetime mission." ¹⁸

Army Vision 2010 and Training and Doctrine Command's (TRADOC) Warfighter XXI (WFXXI) program are a decent effort toward providing the Army with guiding principles for a learning organization. The second way to build operating environments for learning is through conscious attention to learning infrastructure. In a world of rapid change and interdependence, learning is too important to be left to chance. The military focuses entire organizations like TRADOC on learning and doctrine. Formal schooling and unit training is a continuous process in the military, more so than in most civilian organizations. That is not to say we can't do more or improve our teaching methods.

The final way Peter Senge discusses building a learning organization is the executive's own "domain for taking action"---namely, the executive team itself. What is important, first, is that military leaders see that they too, must change, and that many of the skills that have made them successful in the past can actively inhibit learning. Leaders now have to begin to think like change agents, because the problem is not only how to acquire new concepts and skills, but also how to unlearn things that are no longer serving the organization well. ¹⁹ At all levels of leadership in the military we need to take a close look at ourselves and ensure that we are leading change and providing opportunities for a learning environment and not obstacles on the bridge to the future. Transformation does not come through announcements or formal programs. It occurs through a genuine change in leader behavior. Leaders must "walk the talk" and that, of course, implies that the leader has also undergone a personal transformation as part of the total change process.

WF XXI is the concept for total Army training in the 21st century. WF XXI integrates the entire spectrum of Army training programs and provides a strategy to integrate ongoing initiatives into a coherent, integrated training system. The mission of WF XXI is to develop a training strategy and training system for individual through Joint Task Force (JTF) level using the best combination of live, virtual and constructive simulation and simulators to create the Synthetic Environment training battlefield.²⁰ TRADOC identifies five components of their WF XXI Campaign plan as : the Standard Army Training System (SATS); Training Support Packages (TSP); Training Aids, Simulators and Simulations (TADSS); Standard Army After Action Review System (STAARS) and the Army Training Digital Library (ATDL).

The Warrior XXI plan is comprised of three main efforts:

1. Design the Land Warfare University: The design will consist of multiple colleges (e.g. combat, combat support, combat service support and professional development) to train respective branches.
2. Leader Development: Develop new collective training strategies in coordination with the Army Science Board, who is tasked to determine which technologies the Army should invest in to educate 21st century leaders.
3. Classroom XXI: The classroom XXI concept will expand the use of current and future technology to support “classrooms without walls” and “distant learning” .

The military does a decent job with continuing education, officer and non-commission officer professional development programs, etc.; but we can use the revolution in multimedia to allow soldiers to learn anything, anytime, anywhere. **“Just in Time Learning”** similar to the logistics concept of “Just in Time Inventory” can work in training. A soldier in Bosnia should

be able to conduct multimedia training to sustain MOS or warfighting skills. As stated earlier tankers learning how to operate the Army's new digitized tank the M1A2 learn on computers in a classroom saving the military both time, resources, and wear and tear on the equipment. The multimedia capabilities that make "Just in Time Learning" possible are distant learning .

Interactive multimedia and knowledge-based systems offer great promise for conducting education over long distances. Corresponding studies and other courses within the military use distant learning quite effectively now. These technologies also fit in nicely with rapid emergence of collaborative learning and group problem solving. "Groupware"--the use of information networks to form various group decision support systems--is poised to explode because it offers convenient, powerful new forms of getting together in modern organization.²¹ The Armor hotloop is a good example of a system to links the armor community on one net so that everyone knows what is going on in the branch and leaders have an opportunity to ask questions that can be answered by the collective knowledge of the armor community.

Distance learning gives the military the opportunity to take gifted instructors and use them to train a larger audience. A small core of super instructors could teach the entire Army basic military skills, while branch specific instructors teach the task required for a specific skill. A great OPD on defensive operation can be taught to any group anytime anywhere. The leader or teachers role shifts from lecturing to advising or coaching. To make electronic education a reality, knowledge-based systems are essential. A knowledge system is a computer program containing a body of knowledge and heuristics (rules based on experience of an expert) that assist in understanding some field of study. Without knowledge systems, multimedia would be merely

dumb though colorful presentations .²² Through the use of distant learning and the Internet the military can provide training to soldiers when they want and need the training.

General Orlando Ward in discussing combat action during the Korean War said, "One of the biggest reasons for failure in the field of battle is not knowing what to do next and, in most cases, this is the result of not having been trained thoroughly in what to expect on the battlefield."²³ With the use of **virtual reality (VR) simulation** we can ensure that no leader has to fight a battle without at least working through some of the problems in simulations.

Historically the U.S. Army performs poorly during first battles in most conflicts and wars. Most of this is due to inexperience of leaders and soldiers and facing situations that we were not trained for. With improved simulation leaders can resolve some of the problems related to first battles in a virtual environment before having to put soldiers lives at risk. Simulations provide us the capability to create tougher conditions than leaders may find in actual combat. A lot is said about how technology won Desert Storm but the training learned at NTC and in simulators had a major impact on our success. In the future every aspect of warfare will be practiced in simulation before being conducted in a real world situation. Only a limited amount of VR capability has been applied to Operations Other Than War (OOTW) or in warfare in an Urban Environment but software and scenarios can be written to help in this area.

Virtual reality is defined as a three-dimensional, computer generated simulation in which one can navigate around, interact with, and be immersed in another environment. Virtual reality provides a reality that mimics our everyday one.²⁴ The present technology state of VR is probably overstated but the future of VR is important and real, and has great application in both simulation type training and other educational methods. Faster computers, better software, and

new devices to inform our senses are expected to come rapidly onto the scene, improving VR and increasing its utility .

In *Common Sense Training* Lieutenant General Arthur S. Collins said, "Training is hard work, but it does not have to be dull. Much training is presented in boring fashion. The troops lose interest and do not absorb the instruction, the training program fails, and the morale of the troops drop. Good training requires a lot of mental effort; the commander must devise ways to make training intellectually and physically challenging to the troops. The unfortunate thing is that so many commanders don't recognize dull training. But their troops do."²⁵ VR gives us the capability to create exciting and challenging training. The military probably used the first applications of virtual reality in flight simulators and training aids such as the Unit Conduct of Fire Training and the new Advance Gunnery Training Simulator used to train tank crews. With the advent of networked virtual reality, the military is able to stage SimNet tank battles between various military installations around the world over the Defense Simulation Internet. VR is just beginning to be applied to education. All fields can benefit from virtual reality. Medics and soldiers can practice combat lifesaver in a VR environment and Explosive Ordnance Detachment personnel can learn to defuse bombs in simulation. There is no limit to how the military can use VR to train and sustain the skills necessary for the soldier of the XXI century. Improved graphics and simulation available in a virtual reality training environment give the military great capability to make training not only realistic but fun and challenging

The final training need is to improve our **cognitive** capability to assimilate the vast amount of information that is provided in a digital environment. Information does not equal knowledge. The transformation of information into knowledge is the cognitive process. When a

decision is being made, the combination of theoretical methods of logical thinking such as analysis and synthesis, abstracting and generalizations, induction and deduction, analogy and comparison are extremely important. Technological advances have introduced into the military forces, and the employment of military power, a variety and complexity no single mind, not even that of a military genius, can be expected to cope with in arriving at a decision.²⁶ Large staffs can process data and put it into a manageable form but eventually we must find a way to increase our brains' ability to assimilate large quantities of information and make the appropriate decision in minimal time. This paper is not intended to provide a detailed discussion of cognitive learning or human-computer interaction but both of these areas of study are critical to increasing our ability to receive and process large quantities of information. Decision making tools, both manual and computer aided, can only go so far to help the soldier.

III LEADERSHIP STYLE AND SKILL ADJUSTMENTS

“There are three types of leaders: Those who make things happen; those that watch things happen; and those who wonder what happened!” American Military Saying²⁷

Many may ask who is the leader of the future? In many cases, the leader of the future is the same as the leader of the present. There will be no major change in personnel, but rather an internal change: the person becomes the leader of the future by an inside-out transformation. Change requires self-leadership. Leaders must continually look within to decide what they want, what they value, and what they are willing to be courageous about.²⁸ The leader of the future is similar to leaders in the past because there are certain enduring characteristics of effective leadership that never change. Merely to identify the characteristics of effective leaders from the past is insufficient to define the leadership requirements in the digital world, but it is a place to start. The core characteristics, the sine qua non of effective leaders in the future, will be much the same as they have always been. Warren Wilhelm in an article called *Learning from Past Leaders* describes these basic characteristics as **intelligence**, clear and strong **values**, high levels of personal **energy**, the ability and desire to **grow constantly**, **vision**, infectious **curiosity**, a good **memory**, and the ability to **make followers feel good about themselves**.²⁹ I will use these base characteristics to highlight changes in leadership style required for success in the digital future.

Intelligence is the most basic leadership characteristic of all. The ability to see more faster, to reason more effectively, to associate all the learning's of one's life is critical in the fast paced digital world. . In a knowledge-based information age society military leaders require raw intelligence as the basic building block to leadership. Leaders at all levels from platoon to Joint Task Force need intelligence and superb cognitive ability to assimilate vast quantities of information and then make the correct decision in a short period of time.

Leadership without direction is useless. As the pace of change in the world continues to accelerate, strong basic **values** become increasingly necessary to guide leadership behavior. Such values act as social constructs. They allow leaders to make decisions about the direction in which to lead and how to proceed in the digital environment. For a long time, we have said that two different roles exist in organizations. One is called the leadership role---*doing the right thing*. This has to do with vision and direction. The other is the management role, which is *doing things right*, or implementation. The Information Age improves our capability to do things right but it often does not provide leaders what they need to *do the right thing*. Stephen Covey, the author of the best-selling book, The Seven Habits of Highly Effective People, believes that the leader of the future will be one who creates a culture or a value system centered upon principles.³⁰ Historically the military has been a value or principle based culture. Military leaders focuses on doing the right things; staffs focuses on using information age technology to do things right.

Basic leadership traits and the Army's enduring values are good today and are more important than ever in the future. The terms the Army uses to articulate its values---*honor, integrity, selfless service, courage, loyalty, duty, and respect*---inspire the sense of purpose

necessary to sustain soldiers in combat and help resolve the ambiguities of military operations where war has not been declared. Leaders of character and competence live these values. They build an Army where people do what is right, treat others as they themselves want to be treated, and can be all they want to be.³¹ Our core values are like a compass: always pointing the way. They don't change or shift, and if we know how to read them, we don't get lost, confused, or fooled by conflicting voices or values. They provide the true north direction to our lives as we navigate the digital landscape of the future.

Value are critical but it also important that leaders of the future are personally credible. Credible leaders have the personal habits, values, traits and competencies to engender trust and commitment from those they lead. Perhaps one of the best examples of personal credibility is the leadership of Mahatma Gandhi, who claimed, "My life is my own message." Gandhi believed that his personal life gave him the credibility that enabled him to be a successful leader.³² Real leadership occurs when followers choose to follow their leaders---out of belief in them and their articulated vision. Steven Bornstein and Anthony Smith in *The Puzzles of Leadership* say that credibility is based on six criteria that they call the Six C's of Leadership Credibility: Conviction, Character, Care, Courage, Composure, and Competence.³³ Credibility was important in the past and it will be equally as important in the digital future. The leader of the future will be known:

- * Less for what they say and more for what they deliver
- * Less by their title and position and more by their expertise and competence
- * Less by what they control and more by what they shape
- * Less by goals they set and more by mind-sets they build

* Both for great personal credibility and for exceptional organizational capabilities³⁴

As always, the future's most effective leaders will have a high and persistent levels of **energy**. Leadership is tough work. Leaders must be physically and mentally fit to keep up at the information age pace. Although basic energy levels seem to be genetically determined, it is almost always true the effective leaders operate at high levels of personal energy. Not only is energy consumed by good leaders; it is also reinvested, compounded, and used to fuel constant personal growth. Future leaders must utilize all resources available from improved drugs to state of the art exercise equipment to maintain physical and mental toughness.

As the world produces information faster, and our ability to transmit and communicate information increases at an accelerating rate; it is necessary for leaders to absorb and use information to better understand the world and lead more knowledgeable. The leader in the digital world is a perpetual learner who **grows constantly**. The leader who cannot keep learning and growing will soon become obsolete in the ever changing digital world. Leadership development and learning is not like getting in shape, it is like staying in shape. In an ever changing digital environment, learning ability will not consist of one-time learning of a new system; perpetual learning and change will be the only constant. Leaders of the future will therefore have to have more of the following characteristics:

* Extraordinary levels of perception and insight into the realities of the world and into themselves.

*Extraordinary levels of motivation to enable them to go through the inevitable pain of learning and change, especially in a world with looser boundaries, in which loyalties become difficult to define.

* The emotional strength to manage their own and others' anxiety as learning and change become more and more the way of life.

* New skills in analyzing cultural assumptions, identifying functional and dysfunctional assumptions, and evolving processes that enlarge the culture by building on its strengths and functional elements.

* The willingness and ability to involve others and elicit their participation, because tasks will be too complex and information too widely distributed for leaders to solve problems on their own.

* The willingness and ability to share power and control according to people's knowledge and skills, that is, to permit and encourage leadership to flourish throughout the organization.³⁵

Effective leaders have the **vision** required to see things differently from others. They collect and arrange the same data we all see in ways that allow them to conceive of new and unseen phenomena. A core characteristic of all effective leaders is the ability to have a vision of where they are trying to go and to articulate it clearly to potential followers so they know their personal role in achieving that vision. A lot is said about vision in the military and we have both a Joint and Army Vision 2010 to guide us in the future. In the introduction to Army Vision 2010 this document is described as the blueprint for the Army's contributions to the operational concepts identified in Joint Vision 2010. It is the conceptual template for how the

United States Army will channel the vitality and innovation of its soldiers and civilians and leverage technological opportunities to achieve new levels of effectiveness as the land component member of the joint warfighting team. The Chief of Staff of the Army's vision for the 21st century Army is, "a total force trained and ready to fight, serving our nation at home and abroad; a strategic force capable of decisive victory."³⁶

As our planet shrinks and information moves virtually instantaneously around the globe, it is necessary for effective leaders to form and constantly modify their view of the world. Their thinking and actions are determined by their worldview, and it is essential to think as broadly as possible. To fuel this worldview and keep it constantly up-to-date will require a massive **curiosity**, an insatiable desire for information. The digital world requires leaders to continually seek out vast amounts of information, process it, and then modify their leadership behavior based upon an ever-changing environment. For example the ethnic, cultural and gender characteristics of America's population and the military are rapidly changing. It is estimated that non-white ethnic and cultural groups will exceed one-third of all new entrants to the labor force between now and the turn of the century. One clear and over riding implication of this fact is that the United States Military will have a new face. Moreover, dramatically increasing numbers of women are entering the military in roles they would have been precluded from playing just a few decades ago. The digital environment is one without regard to race, religion, or gender. As our worldview changes we need the curiosity to seek out information and adjust accordingly. To lead in this new environment leaders need to bring together people of diverse backgrounds and interest together in ways that provide fair and equitable opportunities to contribute their best, achieve personal goals, and realize their full potential.³⁷ Curiosity and

the desire for information seem to be a self-regenerating phenomena. That is, the more we know, the more we want to know. The digital world provides us the means to receive and to some degree process large amounts of information. Leadership involves not only finding this information but taking the correct actions as a result of the knowledge gained.

A long-term high-capacity well-honed **memory** is as necessary for the leader of the future as it is today. Not only does memory support the ability to receive and process large volumes of information but it also allows leaders to build interpersonal relationships necessary for leadership. We all think fondly of the boss who cared enough to remember our name and personal information about our lives and families. A leader's ability to remember aspects of followers' personal lives, thereby showing his or her interest, is one of the glues that cause followers to continue to bond to the leader. The digital world with scanned pictures and a vast quantify of information can work with our cognitive abilities to improve memory.

The final characteristic that Warren Wilhelm identified as a core competency for the successful leader of the past and the future is the ability to **make followers feel good about themselves**. In a digital world where the individual can get lost in the fast pace of change it is important to find a ways to not only reward individuals but also enhance their self-worth. Creating a learning environment and empowering are two method that can help individuals feel good about themselves and their organization. By listening to followers and then following up a leader can improve the effectiveness of his organization and make people feel as if they are a contributing part of the organization. Everyone wants to be on the winning team; make them feel that they count and that they are contributing to the overall success. Rather than telling them what to do, ask them what needs to be done and then do your best to remove obstacles in

their way. When General Shinseki was the Division Commander of the 1st Cavalry Division he always wanted to know what he could do to help you do your job. He took for granted that each and every soldier was trying to do the right thing and that as a leader he could best support the mission by providing resources and eliminating obstacles. This not only generated good ideas but also gave soldiers a stake in the success of the Division.

In the joint and combined arena where teamwork is critical the ability to make followers feel good about themselves also applies to teams. In an the increasing interdependent digital world, the team is the key element within an organization that must accomplish the mission. Leadership must be created through relationships more than individual results. Leaders of the future will have to master the art of forming teams (joint or combined) and learning to work with boundary's teams (Non-government organizations, NGOs, and Private Volunteer Organizations, PVOs). Instead of coming from individuals, future success will come from teams that share resources and that learn to overlook personal ambition for the sake of the team. In almost every team sport, good teams will beat good talent. The best athlete in the league seldom is on the team that wins the most games. In the digital environment with great interdependency between the services and our coalition partners the future leader will have to be a master of teamwork.

In addition to the core characteristic listed above certain enabling behaviors such as empathy, predictability, persuasive capability, the ability and willingness to lead by example, and communications are critical to the leader of the future. The leader of the future will be a person who can lead and follow, be central and marginal, be hierarchically above and below, be individualistic and a team player, and above all be a perpetual learner.³⁸ In most cases, the leader of the future won't know enough to tell people what to do. The world is

changing too rapidly. No one person is smart enough to keep up. The effective leader of the future will consistently and efficiently ask, learn, follow up and grow. They will understand that the keys to learning are effective listening and reflection after asking for and receiving vast amounts of information. Although the leader in the digital world receives input more frequently and from more sources, the time available to process this information is actually declining. Leaders need to be able to effectively focus and prioritize.³⁹ The leader of the future uses knowledge to direct resources where they are needed. He is a facilitator of power.

IV. CONCLUSION:

“THE MORE THINGS CHANGE THE MORE THEY REMAIN THE SAME” ALPHONSE KARR

Technology doesn't fundamentally change the nature of war. General Sullivan said, "One should be skeptical of any military strategist who claims certainty about the future of warfare, specially those who assert that technology changes the fundamental nature of war".⁴⁰

The digital world of the 21st Century creates challenges that leaders can meet by understanding the digital battlefield and the new environment within which we operate. A military leaders' challenge is to dominate the multifaceted battlespace by continuously operating at a higher tempo with full dimensional visualization of terrain, common situational awareness and the massive quantities of critical operational information provided in the digital environment. There are no easy answers and to some degree we don't know what we don't know but as leaders we are obligated to find the best solutions. I feel key solutions should focus on our ability to *recruit and retain quality people, develop new training methods to allow our soldiers and leaders to maximize the capabilities of new technology, and reinforce basic values while adjusting leadership styles to empower the 21st Century soldier.*

Numerous articles and books are being written providing advise about how to deal with the future. The challenge is not in understanding this advice, but in doing it. As Arnold Schwarzenegger once said, "Nobody ever got muscles by watching me lift weights."⁴¹ As the United States Army continues to meet the challenges of the digital future, its heritage of values and service to the nation will keep it moving in the right direction. The military, although often slow to change, has historically demonstrated the ability to adapt to new technology. This ability was important to our past victories and is key to our success in the future.

ENDNOTES

- ¹ Peter G. Tsouras, Warriors' Words (New York; Sterling Publishing Co. Inc. 1992), p. 62
- ² General Dennis J. Reimer (Chief of Staff U.S. Army), Army Vision 2010, p.9.
- ³ Tsouras, p. 62.
- ⁴ Force XXI: America's Army of the 21st Century, Office of the Chief of Staff, Army: Director Louisiana maneuvers Task Force, 15 January 1995, p. 1.
- ⁵ James Clavell, The Art of War Sun Tzu, (New York: Dell Publishing, 1983), p.2.
- ⁶ Tsouras, p. 357.
- ⁷ Salley Helgesen, "Leading from the Grassroots", The Leader of the Future, (San Francisco, Ca. Jossey-Bass Inc. 1996) p. 21.
- ⁸ Reimer, p. 9.
- ⁹ Department of the Army Pam 10-1, p. 35.
- ¹⁰ William E. Halal and Jay Liebowitz, "Telelearning: The Multimedia Revolution in Education," The Futurist Vol 28, No. 6 (Nov-Dec 1994) : p.23.
- ¹¹ Nicholas P. Negroponte, Being Digital (New York): Knopf, 1995), p. 204.
- ¹² LTC Corlis S. Berry, "Human Engineering for the Digital Battlefield", (Force XXI Homepage, 11 April 1996), available at <http://204.7.227.75:443/force21/articles/humaneng.html>
- ¹³ Tsouras, p. 442
- ¹⁴ William E. Halal and Jay Liebowitz, p.23.
- ¹⁵ Alvin Toffler and Heidi Toffler, War and Anti-War: Survival at the Dawn of the 21st Century (Boston: Little, Brown & Co., 1993), p. 146.
- ¹⁶ Tsouras, p. 440
- ¹⁷ Peter Senge, "Leading Learning Organization", The Leader of the Future, (San Francisco, Ca. Jossey-Bass Inc 1996) p. 51.
- ¹⁸ General Dennis Reimer (Chief of Staff U.S. Army), "The Army's Future Training Strategy Warfighter XXT", (Force XX! Homepage, April 1996), available at <http://www-dcst.monroe.army.mil/wfxxi/overview.htm>.
- ¹⁹ Edgar H. Schein, "Leadership and Organization Culture", The Leader of the Future, (San Francisco, Ca. Jossey-Bass Inc.1996) p. 64.
- ²⁰ "The Army's Future Training Strategy Warfighter XXT", (Force XX! Homepage, April 1996), available at <http://www-dcst.monroe.army.mil/wfxxi/overview.htm>.
- ²¹ William E. Halal and Jay Liebowitz, p. 23

²² Ibid

²³ Tsouras, p. 442

²⁴ John C. Briggs, "*The Promise of Virtual Reality*", The Futurist Vol 30, No. 5 (Sept-Oct 1996) : p.13.

²⁵ Tsouras, p. 147.

²⁶ LTC George E. Rector, "Leadership and Decisionmaking", *Marine Corps Gazette*, (Oct 95), p. 21-23.

²⁷ Tsouras, p. 238

²⁸ Richard J. Leider, "*The Ultimate Leadership Task*", The Leader of the Future, (San Francisco, Ca. Jossey-Bass Inc 1996) p. 190.

²⁹ William Wilhelm, "*Learning from Past Leaders*", The Leader of the Future, (San Francisco, Ca. Jossey-Bass Inc 1996) p. 221-226.

³⁰ Stephen R. Covey, "*Three Roles of the Leader in the New Paradigm*", The Leader of the Future, (San Francisco, Ca. Jossey-Bass Inc 1996) p. 149.

³¹ General Dennis J. Reimer (Chief of Staff U.S. Army), Army Vision 2010, p.4.

³² David Ulrich, "*Credibility X Capability*", The Leader of the Future, (San Francisco, Ca. Jossey-Bass Inc 1996) p. 215.

³³ Steven Bornstein and Anthony Smith, "*The Puzzels of Leadership*", The Leader of the Future, (San Francisco, Ca. Jossey-Bass Inc 1996) p. 284.

³⁴ David Ulrich, p218-219.

³⁵ Edgar H. Schein , p. 67-68.

³⁶ General Dennis J. Reimer (Chief of Staff U.S. Army), Army Vision 2010, p.1.

³⁷ John W. Work, "*Leading a Diverse Force*", The Leader of the Future, (San Francisco, Ca. Jossey-Bass Inc 1996) p.79.

³⁸ Edgar H. Schein , p. 69.

³⁹ Marshall Goldsmith, "*Ask, Learn, Follow Up and Grow*", The Leader of the Future, (San Francisco, Ca. Jossey-Bass Inc 1996) p.228.

⁴⁰ General Gordon R. Sullivan and Lieutenant Colonel James M. Dubik, Land Warfare in the 21st Century, (Carlisle Barracks, PA: Strategic Studies Institute, 1993), p. 28.

⁴¹ Goldsmith, p. 229.

BIBLIOGRAPHY

Berry, LTC Corlis S., "*Human Engineering for the Digital Battlefield*", (Force XXI Homepage, 11 April 1996), available at <http://204.7.227.75:443/force21/articles/humaneng.html>

Briggs, John C. "*The Promise of Virtual Reality*" The Futurist, (Sept-Oct 1996) :13-18.

Clavell, James. The Art of War Sun Tzu, New York, N.Y., Dell Publishing, 1983.

Halal, William and Jay Liebowitz. "*Telelearning: The Multimedia Revolution in Education.*" The Futurist, (Nov-Dec 1994) : 21-26.

Hesslebein, Frances, Marshall Goldsmith and Richard Beckhard, The Leader of the Future, San Francisco, Ca., Jossey-Bass Inc., 1996

Negroponte, Nicholas. Being Digital. New York, Alfred A. Knopf, Inc., 1995.

Petersen, John L. The Road to 2015, Corte Madera, Ca., Waite Group Press, 1994

Shalikashvili, General John M. (Chairman of the Joint Chiefs of Staff), Joint Vision 2010, Office of the Chairman of the Joint Chief of Staff, Pentagon, Washington, D.C. 1996

Sullivan, General Gordon R. and LTC James M. Dubik. Land Warfare in the 21st Century. Carlisle Barracks, PA: Strategic Studies Institute, 1993.

Rector, George E., "*Leadership and Decision Making*". Marine Corps Gazette, Oct 1995.

Reimer, General Dennis J.(Chief of Staff Army), Army Vision 2010, U. S. Department of the Army 1996.

Toffler, Alvin and Hedi. War and Anti-War. Boston: Little Brown & Co., 1993.

Tsouras, Peter G. Warriors' Words, New York, N.Y. Sterling Publishing Co. Inc., 1994.