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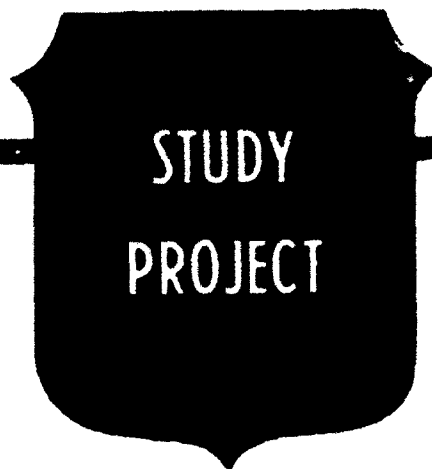
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**JOINT EDUCATION:  
WHERE IT REALLY SHOULD BEGIN**

BY

**LIEUTENANT COLONEL STEPHEN J. MILLER**  
United States Air Force

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19. ABSTRACT

The 1986 Goldwater-Nichols Department of Defense Reorganization Act mandated sweeping reforms to the professional military education system. In particular, the law called for the creation of joint specialty officers, and gave the Chairman, Joint Chiefs of Staff, authority to formulate policy in the military education system in order to produce officers competent in joint matters. Thus far, the focus of the changes have been at the intermediate and senior service schools. The Chairman has issued clear objectives for joint education curricula, and each of the programs must be periodically accredited. However, very little guidance has been given to the precommissioning schools, and their joint programs are not formally reviewed by the JCS. As a result, the variety and depth of joint curricula varies considerably between the service academies and ROTC units. In the author's opinion, officers are graduating with differing perspectives and levels of understanding about joint matters. However, the military is changing and young officers are being exposed to the joint environment earlier in their careers through consolidation of DoD organizations, training exercises and real world contingencies. This paper presents several arguments why joint education should be improved for officer candidates, and recommends that precommissioning schools become full fledged partners in the joint education process by implementing common learning objectives and submitting their curricula to periodic JCS review.

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JOINT EDUCATION: WHERE IT REALLY SHOULD BEGIN  
AN INDIVIDUAL STUDY PROJECT

By

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## ABSTRACT

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The 1986 Goldwater-Nichols Department of Defense Reorganization Act mandated sweeping reforms to the professional military education system. In particular, the law called for the creation of joint specialty officers, and gave the Chairman, Joint Chiefs of Staff, authority to formulate policy in the military education system in order to produce officers competent in joint matters. Thus far, the focus of the changes have been at the intermediate and senior service schools. The Chairman has issued clear objectives for joint education curricula, and each of the programs must be periodically accredited. However, very little guidance has been given to the precommissioning schools, and their joint programs are not formally reviewed by the JCS. As a result, the variety and depth of joint curricula varies considerably between the service academies and ROTC units. In the author's opinion, officers are graduating with differing perspectives and levels of understanding about joint matters. However, the military is changing and young officers are being exposed to the joint environment earlier in their careers through consolidation of DoD organizations, training exercises and real world contingencies. This paper presents several arguments why joint education should be improved for officer candidates, and recommends that precommissioning schools become full fledged partners in the joint education process by implementing common learning objectives and submitting their curricula to periodic JCS review.

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## I. INTRODUCTION

From all reports, Desert Storm, especially the air war, seems a triumph of interservice cooperation. The truth is, however, that Saddam Hussein's unwilling forces proved to be a poor test of interservice cooperation; little has changed operationally in the joint arena but perceptions. Officers in all the services now speak of interoperability as though from a script: "Greater interoperability is the trend... With defense budgets shrinking, we need to work together more efficiently. Jointness isn't going away." But when these attitudes are tested operationally, the differences between the services often outweigh the similarities, and cooperation is not easy to achieve.<sup>1</sup>

--Junior Naval Officer

Criticizing military "jointness" is not fashionable nowadays, or it's done quietly and politely, if at all. Professional military writings have touted the successes of recent joint operations. Top leaders praised the teamwork that made victory in the Gulf War possible. "Operation Desert Shield/Desert Storm was certainly the classic example of a multiservice operation," General Schwarzkopf said in an address at the Naval Academy, "a truly joint operation."<sup>2</sup>

However, many Gulf War veterans share the junior naval officer's opinion expressed in the opening quotation. Differences in equipment, training, and doctrine between the Services frequently did cause problems in planning and execution. The same Navy officer observed, "[T]he best example of interoperability between the Air Force and Navy carrier [tactical air] during Desert Storm was an agreement to keep away from each other's airspace -- and each other's targets -- at specified time windows."<sup>3</sup> A significant element of the force remains skeptical about the true commitment to mixed operations.

In fact, while there is still a long way to go, the military is earnestly attempting to tear down cultural barriers that have traditionally separated the Services. Fundamental changes have been made in joint command and control operations, systems procurement, employment doctrine, and many other areas. If there are lingering doubts concerning America's commitment to jointness, the blame may lie in the current professional education system and the fact that a large number of officers -- lieutenants/ensigns and captains/lieutenants -- are still not being effectively educated on joint matters.

The 1986 Goldwater-Nichols Department of Defense (DoD) Reorganization Act directed DoD to identify and educate joint specialist officers in the capabilities and doctrines of the other services.<sup>4</sup> The law made the Chairman, Joint Chiefs of Staff (CJCS), "the principal official to assist the Secretary of Defense in Joint Professional Military Education (JPME) matters, including the joint curriculums at Service schools, and gave the Chairman responsibility for formulating policies to coordinate all military education."<sup>5</sup>

In May 1990, the CJCS published CM 344-90, Military Education Policy Document (MEPD), which established the objectives, philosophy and policies that now guide the JPME process throughout the Department of Defense. The policies reflect the chairman's conclusion that joint education is important to all officers. In particular, they require the intermediate and senior war colleges to develop joint education

programs based on common objectives, and to submit those programs periodically to the JCS for accreditation.

The MEPD also covered military education at the precommissioning level which comprises the Service academies, Reserve Officer Training Corps (ROTC) units, and Officer Candidate/Officer Training Schools.<sup>6</sup> However, the document did not define specific JPME objectives for precommissioning programs, nor was there any requirement for program accreditation. Consequently, the author believes that present entry-level joint education programs lack completeness and coherency between the Services, and many newly commissioned officers enter the armed forces without an adequate appreciation and understanding of jointness.

This paper will argue that it is time to change this -- that joint education programs at the precommissioning level play an equally important role in the JPME framework, and must become more unified between the Services. To accomplish this, common objectives must be established and programs should be formally reviewed. These initiatives, if implemented, will ultimately improve interservice cooperation and strengthen warfighting capability for the armed forces.

## **II. PAST JOINT EDUCATION STUDIES**

In an era where jointness is so strongly supported by military leaders, it might come as a surprise to some that

precommissioning education, in general, has little joint curriculum. Why isn't there a more serious study of joint matters during pre-commissioning schooling? The issue has been studied by the Defense Department several times, but in each case it was dismissed as being unnecessary or inappropriate. Prior to the end of World War II, there was general recognition throughout the armed forces that military education in joint matters needed improvement. Planning and execution of joint operations during the War often had been hampered by a lack of common doctrine and generally poor knowledge of particular Service capabilities.

As a consequence, in 1945, the JCS appointed the Richardson Committee to examine postwar needs in the entire educational system and, in particular, to determine how jointness could be integrated into the curricula. Their study, titled the "General Plan for Postwar Joint Education of the Armed Forces," considered introducing joint education at the service academy level. However, the group ultimately recommended against the idea, declaring it "not to be profitable."<sup>7</sup> While recognizing that early education in joint matters was important, the panel concluded that young officers would "receive indirect education in joint matters through training exercises and maneuvers, through informal contacts and associations, and through the dissemination downward of the formal education presented on higher levels."<sup>8</sup>

Nearly forty years passed before the question of expanding joint education down to the officer candidate level was seriously

reconsidered. The failure of the 1980 Iranian hostage rescue attempt, the 1983 bombing of the Marine barracks in Lebanon, and congressional dissatisfaction with the 1983 Grenada Operation, launched a major military reform effort to improve service interoperability. The military education system came under intense scrutiny by Congress, and changes were mandated by the Goldwater-Nichols Act.

The educational reforms required under the Goldwater-Nichols Act led to the creation of two major study groups. Both groups examined the question of when joint education should begin in order to develop capable joint specialty officers.

The JCS-appointed Dougherty Board reported its findings in May 1987, and concluded that the nation would be "best served by the widest possible cultivation of joint perspectives in military officers," and that joint education should not only be limited to those serving in joint assignments. The report went on to say that "officers should be introduced to joint matters at the earliest practical level," but that "joint instruction....should not come at the expense of learning how to perform well in one's own Service... ."9 The Board members agreed with General Vessey who testified that, "The best joint officers are those who are most knowledgeable and proficient in all aspects of their Services. If they are not knowledgeable and proficient, they bring little or nothing to a joint assignment."<sup>10</sup> The Board did not recommend any changes to joint education below the intermediate level of schooling.

The other military education study was led that same year by Congressman Ike Skelton (D-MO), who chaired the Panel on Military Education (popularly known as the Skelton Commission). The panel also sought to determine how the overall professional military education system could produce an officer competent in joint matters.<sup>11</sup> The group reached the same conclusion as the Dougherty Board: the appropriate point for an officer to begin a serious study of jointness was at the intermediate level of schooling.

Skelton, however, recognized that some joint education should begin at the precommissioning level, but not to teach an in-depth knowledge of joint operations or to prepare prospective officers for joint duty. Rather, the Panel envisioned changes that would have four goals:

- 1) To broaden the perspective from which to view the narrow, focused branch or warfare specialty training, that an officer receives in the first years of commissioned service.

- 2) Allow officers to relate in a general way their contribution and that of their unit, to the overall military effort.

- 3) Help them to understand, in the context of their own branch or warfare specialty, how each Service supports the missions of the other Services.

- 4) Encourage them to reach beyond the knowledge and skills required of their warfare specialty and begin a career-long commitment to reading and studying about warfare to include its broader concepts.<sup>12</sup>

These recommendations were studied by the CJCS and ultimately incorporated into the 1990 Military Education Planning Document (MEPD) in a more succinct statement. "In concert with the introduction to one's own service", the MEPD reads, "students

should receive an overview of the joint arena, its history and purpose, to commence the process of thinking from a joint perspective."<sup>13</sup> The JCS backed off from issuing specific learning objectives that would have ensured that all precommissioning programs developed joint curriculum based on a common framework. In addition, the JCS did not require the Services to submit their programs to any outside review process. The unstated, but implied message, was that education and curriculum development at the precommissioning level would remain a Service prerogative.

Thus, the Services were free to liberally interpret the broadly-worded MEPD guidance and reshape (if at all) the pre-commissioning programs as they saw fit. Predictably, in the intervening years, the military academies, and the Service Reserve Officer Training Corps (ROTC) programs, have approached joint education from widely different perspectives.

### **III. CURRENT PRECOMMISSIONING JPME PROGRAMS**

During 1992, JCS staff officers informally reviewed joint education programs at the Service academies and in ROTC units. They determined that all the academies had instituted programs which met minimum MEPD curriculum requirements, while several ROTC programs were still in the process of developing their joint curricula. Among the existing programs studied, there were marked differences in regard to the variety and depth of joint

subject matter being taught.

For example, the Navel Academy has only two hours of formal joint education, which all midshipmen receive in their junior year through the Division of Professional Development. The lessons cover the roles, missions, functions and organization of the other services, and how military forces are used to support national interests.<sup>14</sup>

Cadets at West Point receive the majority of their joint education through the Departments of Military History and Social Sciences. Core courses HI 301-302, "History of Military Art," examine the art of warfare from Grecian times to the present, and how political, social, and economic factors have influenced the military. Another core course is SS 307, "International Relations," where cadets study the relations between nations and the role of the U.S. in the international environment.

The most comprehensive joint education at West Point is taught in an optional history course for juniors, HI 378, "History of Joint Operations." The HI 378 curriculum contains a rigorous study of military doctrine and the employment of U.S. military forces in joint operations. It also includes five case studies on recent joint operations such as Desert One (1980), and Desert Shield/Desert Storm (1990-1991).<sup>15</sup>

The Air Force Academy has just recently revised its joint education curriculum. Beginning in Fall 1993, all academy seniors will take a course called "Joint and Combined Operations," taught by the Military Art and Science Department.

The one semester course, comprising 42 lessons, will cover a broad range of joint subjects that includes: theories and principles of joint operations; Service doctrines and capabilities; Unified Command structures and responsibilities; case studies on past joint operations, and; a joint operations planning and execution exercise. In lieu of the "Joint and Combined Operations" course, seniors may opt for another class called "Seminar on Jointness and Nontraditional Roles." The course content includes theoretical issues of joint operations and military roles, jointness and the U.S. military's traditional combat role, U.S. military experience with jointness, and nontraditional military roles. Whichever course the cadets choose, they will learn a significant amount of information on joint operations.<sup>16</sup>

The Services have scheduled a Tri-Service ROTC conference in May 1993, to discuss joint education curricula. Presently, only the Air Force ROTC program has developed formal lesson plans on joint matters. All seniors receive four classroom hours of instruction on Service organizations and missions, the combatant commands, and joint doctrine. Although neither the Army or Navy ROTC programs currently have specific lesson plans devoted to joint matters, many joint topics are interwoven throughout the overall military curriculum. The Navy has already begun consolidating and improving their joint education into a lesson plan that will cover essentially the same topics found in the AFROTC program.<sup>17</sup>

It is not surprising that in the absence of more specific guidance from the Military Education Policy Document (MEPD), the precommissioning joint education programs bear little resemblance to one another. A curriculum designed, as the MEPD states, "to commence the process of thinking from a joint perspective," is open to interpretation as to what qualifies as joint education and how much time should be devoted to teaching it. The difference that currently exists between Service Joint Professional Military Education (JPME) programs, however, is not just a matter of insufficient MEPD guidance. Some people believe that the emphasis on joint education has already gone far enough, at the expense of education otherwise better spent on developing Service expertise. One senior Army officer, for example, complained that, "the enthusiasm for 'jointness' that came with the Goldwater-Nichols Act ... levels little room for protecting or encouraging tactical expertise -- under the new dispensation, every excellent officer has to be 'joint.' As we begin to educate theatre operators, we must correct this error and make the point explicit that all operational success depends on tactical excellence."<sup>18</sup> And LtGen Boomer, Commanding General, I Marine Expeditionary Force in Desert Shield/Storm, said that he had "plenty of majors who could quote classical military theorists, but, they didn't have a clue about how to breach the minefields in Kuwait."<sup>19</sup>

If additional changes to the precommissioning military education programs are proposed, such skeptics will have to be

convinced that they are necessary.

#### **IV. WHY IMPROVE PRECOMMISSIONING JOINT EDUCATION**

There are three key arguments for improving both the quality and scope of joint education at the precommissioning level. First, better joint education at the earliest possible level will promote interservice teamwork and counter other programs and policies that can foster service parochialism. Field Marshall Rommel once warned that the greatest efforts must be made to teach officers to avoid both interservice and intraservice rivalries, which hurt unity of purpose and the will to pull together toward a common goal: "[Interservice] struggling for power is rather like sawing off the branch on which one is sitting."<sup>20</sup> Instilling a positive attitude towards, and acceptance of, "jointness" depends on the socialization process at the entry level of schooling.

Socialization is defined as "the process by which human beings internalize the behavioral norms of society and each of the various groups with which they may be involved."<sup>21</sup> In the military, the degree of internalization is influenced by many factors, but education plays a key role. Precommissioning schooling is where the military socialization process begins as officer candidates learn the particular values and traits that define a Naval, Army or Air Force officer.

Service education and training programs are used to teach

and reinforce the fact that each individual Service and its members are unique. No Service understands and practices this socialization process more effectively than the Marine Corps. All newly commissioned lieutenants, no matter what their commissioning source, must attend The Basic School where they are taught to accept certain values, standards and images defining what it means to be an officer in the Marines.<sup>22</sup>

A spin-off of the service-managed socialization processes, however, is the development of interservice rivalry. This is particularly apparent at the service academies. There, it is manifest on the fields of athletic competition where slogans of "Beat Army" or "Beat Navy" first sow the seeds of Service parochialism. Some interservice rivalry is acceptable since the "desire to excel and the competition of differing points of view are indispensable to a healthy military organization."<sup>23</sup> But it is certainly not too far fetched to see some connection between the rivalry first learned at the academies, and the excessive interservice competition for resources and missions sometimes seen at the Pentagon.

Cadets and midshipmen must be taught that interservice competition must not be carried off the athletic fields, and that "there is no place for rivalry that seeks to undercut or denigrate fellow members of the joint team."<sup>24</sup> All services have a responsibility to reorient their particular socialization process with equal commitment and enthusiasm towards jointness.

The second argument for improving joint education at the

precommissioning level is that it is possible to develop officers better qualified in joint matters by beginning the learning process earlier. The process for developing joint expertise should be more closely aligned with the process used to develop Service expertise. The Services have generally recognized three ingredients essential to the professional development of their officers: sound education, proper training, and personal dedication to self-improvement. Each factor is important in developing the desired level of Service expertise.<sup>25</sup>

The education process begins even before commissioning to ensure future officers gain the knowledge and cognitive skills to prepare themselves for future military responsibilities and to deal with uncertainties. Education provides them with the foundation necessary to analyze, critique and consider alternative solutions to the various challenges they will encounter in the initial years of service.

Education is followed by training. The young officer moves from theory in the classroom, and begins to learn how to master a particular skill. Training, combined with experience, eventually provides the officer with a certain level of job expertise. However, to achieve the desired depth of knowledge about their profession, the Services encourage their officers to develop the motivation and discipline to pursue additional self-improvement through personal study.

Education, training and self-development must be progressive and sequential throughout an officer's career, building on what

has been learned, and preparing for the future. General Vouno, former Army Chief of Staff, once said that "the knowledge taught and the skills acquired throughout an officer's career should be timed in a manner that produces a close relationship between the requirements which must be met and the tools that have been provided."<sup>26</sup>

Over the years we have convinced ourselves that the development of joint expertise need not follow the process just described. The requirement for developing joint expertise does not seem necessary until one is approaching possible joint duty assignment -- jobs not typically filled by lieutenants or captains. Why, the argument goes, should young officers receive -- or be encouraged to individually pursue -- substantial education in joint matters that will not be needed until much later in their careers? When the requirements for joint and service education are weighed against each other, the scales tip decidedly for Service-oriented education.

Nevertheless, for the military to accept the notion that a serious study of joint education can be delayed until midway in an officer's career runs contrary to the proven developmental process. With a little more than a year's worth of education at the intermediate schools, majors and lieutenant colonels are expected to suddenly acquire the necessary knowledge to become effective joint duty officers. This assumption is wrong on two counts.

First, the scope and complexity of understanding the

capabilities and missions of the other Services presents a formidable learning challenge. The learning process cannot be postponed until the mid-point of an officer's career: joint knowledge must be cultivated and accumulated from the beginning of service. Given the genuine commitment to interservice teamwork, both joint and Service expertise are now really two sides of the same coin; and a sufficient measure of each is necessary at all phases of service.

Second, under the present education system, where so much early education focuses on a single-service's capabilities, the officer can become blind to its limitations, and fail to grasp the essential interdependence among all military forces. While the officer may acquire expertise in the employment of his own component's forces, he will lack the imagination on how to integrate most effectively with other forces. He may not attain that breadth of interservice knowledge necessary to earn the complete confidence of his fellow comrades in arms.

Lack of understanding is what breeds apprehension and mistrust among the Services, particularly during mixed military operations. As one senior Air Force officer said, "All the Services fear that their forces will be misused by the 'unwashed' from another Service, who do not understand how their forces should be used and do not appreciate the contribution their particular kind of military force can make to the larger struggle."<sup>27</sup>

There must be enough joint education and encouragement to

pursue additional self-study at the initial stages of military service to give young officers the ability to question conventional wisdom, innovate, and look at things in a different way outside the realm of their own Service. The education is not to make them joint speciality officers, but to spark their interest in jointness and to prepare them for the joint experiences they will inevitably encounter in the initial years of service.

Current political and economic forces are reshaping the military and drawing lieutenants and captains into the joint arena in an unprecedented manner. As a consequence, the education process should give young officers the tools they need to understand -- and to operate in -- the joint environment at the tactical level. This is the heart of the third, and final argument for improving joint education at the precommissioning level.

The major impetus for bringing officers into joint operations at earlier stages in their careers was provided by the Goldwater-Nichols Act in 1986. Since then, various service functions have been consolidated under new, unified organizations. All of America's strategic nuclear forces have been put into the U.S. Strategic Command, and strategic mobility assets have been consolidated under the Transportation Command. A National Military Joint Intelligence Center has been established to support the unified Commanders-in-Chief (CINCs) and to coordinate support for intelligence requests among a

variety of military and civilian intelligence agencies.

There have also been dramatic changes in the areas of joint doctrine and peacetime training. The landmark publication of JCS Pub 1, "Joint Warfare of the US Armed Forces: Joint Warfare is Team Warfare," presents precepts which now guide the conduct of joint and combined operations. There are nearly seventy-five other joint publications in either draft or final form that will eventually reach down into every level of operation affecting more than one service.<sup>28</sup> In addition to doctrine, more Joint Tactics and Training Procedures (JTTP) are being written which prescribe joint policies and operations in such areas as Suppression of Enemy Air Defenses, Air Defense Operations/Joint Engagement Zone, Intelligence, Base Defense, Jamming, and Peacekeeping.<sup>29</sup>

Doctrine and JTTPs are being used and refined through more joint training exercises. The number of JCS exercises planned for FY93 (approximately 150) is a threefold increase since FY90. The trend is towards more joint training operations in support of the CINC's requirements.<sup>30</sup>

The 1993 CJCS "Report on Roles, Missions, and Functions," portends even greater changes in jointness. The JCS has suggested that all CONUS-based forces currently under the Army's Forces Command, the Navy's Atlantic Fleet, the Air Force's Air Combat Command, and the Marine Corp's Marine Forces Atlantic, be placed under a single CINC. This new command, yet unnamed, would be responsible not only for the training and readiness of

these force, but the enhancement of their ability to operate jointly to support the warfighting CINCs.<sup>31</sup>

In the future, there may also be the elimination of the US Space Command and the concurrent assignment of the Space mission to CINCSTRAT, as well as the establishment of a Joint Depot Maintenance Command to oversee all depot level maintenance. Many primary skills training programs may be consolidated, to include fixed and rotary wing primary flight training.

As a result of all of this, junior officers in all Services are already participating in real world joint operations. Since the end of Desert Storm, for example, joint U.S. forces have deployed together in peacetime operations such as Provide Comfort (relief for the Iraqi Kurds) and Restore Hope (humanitarian operations in Somalia). Joint forces have also responded to domestic crisis such as the disaster relief efforts following Hurricane Andrew in 1992. Meanwhile, the DoD continues to assist U.S. agencies in counterdrug operations, while remaining vigilant against the continued threat of terrorism and the high potential for low intensity conflict operations.

Although lieutenants and captains may not be the planners or the leaders of these varied peacetime operations, they will often be direct participants. It is important that they receive the necessary level of education to help them understand their role beyond the context of their own branch or warfare specialty, and how each Service supports the missions of the other Services. The more they are encouraged to interact and learn from their

counterparts during training and real world operations, the more joint savvy they will bring to their joint job in later years.

## V. RECOMMENDATIONS

The Department of Defense has worked diligently to implement the many educational reforms demanded by Congress since the Goldwater-Nichols Act. The Skelton Commission alone had 144 recommendations requiring the services at their various levels of schooling to improve the quality of faculty, reduce the student-faculty ratio, strengthen the rigor of instruction, and establish a two-phase joint professional military education structure.<sup>32</sup> Throughout the intermediate staff and senior service schools, the Process for Accreditation of Professional Education (PAJE) is reviewing how well each of these changes have been implemented.<sup>33</sup> The preliminary assessment is that the initial efforts towards improving joint education have been helpful. But there remains much to do.

It is now time to focus attention on the precommissioning level of Joint Professional Military Education (JPME), and bring it into the overall framework described by the Chairman's Military Education Policy Document (MEPD). The recommended first step is to make the leaders of the precommissioning programs members of the key inter-service organizations that influence the joint education process, such as the Military Education Coordinating Committee (MECC). The MECC was

established by the JCS in 1962 as a means for "exchanging pertinent information, discussing mutual problems, and coordinating instructional efforts concerning joint aspects of both joint college and Service War College curricula."<sup>34</sup> The initial membership was comprised of leaders from the National War College, Industrial College of the Armed Forces, Armed Forces Staff College, Army War College, Naval War College, and the Air War College. Since then, the membership has grown to include the National Defense University, Marine Corps War College, and the intermediate service schools -- but not the precommissioning schools.

The MECC meets twice annually, and is chaired by the Director, Joint Staff. Agenda topics are prepared by the Military Education Division, Directorate for Operational Plans and Interoperability, J-7, the Joint Staff (J-7/MED). The forum provides a valuable opportunity to share information about joint topics and to discuss initiatives to improve joint education. The absence of all precommissioning leadership at this meeting is noteworthy, for it implies that the academies and ROTC programs are not really part of the joint education framework. This perception is further supported by the fact that precommissioning representation is missing from a second important education steering group.

Each year, J-7/Military Education Department chairs a Curriculum Coordination Conference (CCC) that includes joint education curriculum representatives from the intermediate and

senior level PME schools, and Service headquarters personnel. As its name suggests, this group discusses issues pertinent to curriculum development for the Program for Joint Education (PJE) as well as possible future directions of joint education. Its principal benefit is that it provides a means of keeping joint curriculum relevant to the changing times and enhances curriculum uniformity in all JPME institutions.<sup>35</sup>

As we have already seen, the JPME programs at the precommissioning level, lacking direction and coordination, have disparate curriculum. If the joint education hierarchy is to be complete, the second recommendation is that precommissioning programs should be brought into the membership of both the Military Education Coordination Committee and the Curriculum Coordinating Committee. This, however, is not enough to correct the existing situation. The MEPD is going to have to develop better guidance for joint precommissioning curricula.

The Joint Professional Education programs at the intermediate and senior level schools would not be as successful as they are if clear objectives had not been established. A similar process must occur in terms of joint education for officer candidates in all of the Services. It is simply unacceptable for anything other than unified commitment to a minimum level of joint education at the precommissioning level.

The Chairman, JCS, has the authority under law to set the standards for education. As a third recommendation, he should appoint a joint task force, chaired by J-7/MED, to bring together

representatives of the precommissioning programs and decide what the minimum program objectives should be. The Services can be left to determine how the joint curriculum will be developed and taught, but it is important that all officer candidates receive the minimum amount of education. The Services may want to continue and expand elective courses that go deeper into joint subjects.

Finally, these programs need to be formally reviewed and compared periodically to ensure adequacy and to encourage improvement as new requirements emerge.

## **VI. CONCLUSION**

A noted military historian once pointed out that "successful jointness and joint doctrine will come about only when soldiers, sailors and airmen understand and appreciate the sources and implications of their own views and the views of their counterparts. Only after such understanding is achieved is there any real hope of synthesizing these views into rational joint theories of victory, theories that will differ depending on the circumstances of the conflict in question."<sup>36</sup> The avenue towards better understanding depends on proper education that begins at the earliest level of professional military development.

In many regards, the current joint professional military education system reflects a trickle down approach to instilling joint values and knowledge. Creating a joint perspective should

begin from the bottom up. Precommissioning education must concentrate on the socialization process, producing curriculum that smoothly ties into the existing JPME framework, while preparing young officers for the immediate challenges of joint operations.

Every day, greater numbers of junior officers are working with their Service counterparts in joint endeavors. If they are adequately versed in the joint fundamentals that guide their common cause, they will communicate better and recognize where doctrine and theory differ with actual operations. Eventually, as they reach field grade rank and move into joint staff positions, they will make contributions to theatre planning and doctrine from a more informed perspective. The ultimate goal is improved understanding of how unique roles and missions can be applied more effectively in waging war.

The Services are not likely to take a coordinated approach on this issue. There is no requirement for them to do so. However, CJCS has the authority to provide the guidance and to review the results. In that guidance, there must be common objectives to ensure that there is a seamless JPME process throughout all tiers of the education system.

The changing world requires a change in learning. The members of the Dougherty Board "were sobered by the future demands on professional military education, particularly courses that would teach young officers the importance of blending the strengths and compensating the weaknesses of various service forces."<sup>37</sup> It is time for the Services to discard the old idea that joint education and service education are somehow

incompatible. It is time to let go of outdated prejudices and to demonstrate the teamwork that is the essence of jointness.

#### ENDNOTES

1. Lieutenant (USN) Dennis Palzkill, "Making Interoperability Work," Parameters, (September 1991), 50.
2. Col Harry G. Summers, USA, Retired, "Purple Suiters' Brigade," Washington Times, Apr. 30, 1992, cited by JPME On-Line: The Joint Professional Military Education Newsletter, September 1992, p. 7.
3. Palzkill, "Making Interoperability Work," p. 51.
4. See U.S. Congress. Public Law 99-433 [H.R. 3622]. Goldwater-Nichols Department of Defense Reorganization Act of 1986. (Washington: GPO, 1986).
5. U.S., Department of Defense, Office of the Chairman Joint Chiefs of Staff, CM 344-90, Military Education Policy Document, 1 May 1990 (Washington D.C.: GPO, 1990), p. I-1.
6. The MEPD actually provides education guidance for all five tiers of the PME framework to include precommissioning, primary, intermediate, senior and general officer schooling.
7. U.S., Joint Chiefs of Staff, General Plan for Postwar Joint Education of the Armed Forces: Report of the Army and Navy Staff College, JCS Series 962/2 (June 1945), p. 25.
8. Ibid.
9. See the Report of the Senior Military Schools Review Board on Recommendations to the Chairman of the Joint Chiefs of Staff Regarding Professional Military Education in Joint Matters (Dougherty Report), 7 May 1987, p. 5, as cited in the Record of Hearings Before the Panel on Military Education of the House Committee on Armed Services, 100th Cong., 1st and 2nd Sess., pp. 10-57.
10. Ibid. p. 1.
11. See U.S. Congress, House, Committee on Armed Services, Panel on Military Education, Report of the Panel on Military Education of the Armed Forces of the 100th Congress of the Committee on Armed Services, House of Representatives: 100th Congress, 1st Session. (Washington: GPO, 1989), passim.
12. Ibid. p. 4.
13. Military Education Policy Document, p. II-5.

14. Information about the joint education programs at the service academies and ROTC units was obtained through numerous interviews with selected curriculum developers for each of the programs, and a review of course syllabii. Joint education at Annapolis is taught in Naval Science Course NS 310, in a lesson entitled, "National Defense Philosophy."

15. The USMA Department of Military Instruction also offers a joint elective to seniors: MS 470, "Military Strategy." The course is designed to give cadets a general understanding of how national military strategy is applied at the theatre level of war, to include military force apportionment and planning processes.

16. The Military Arts and Sciences Department also publishes the Military Arts and Sciences Quarterly newsletter, which is distributed to all USAFA cadets, and contains articles and recommended professional readings on joint/combined operations.

17. AFROTC teaches joint education during lesson 31 of Aerospace Studies 400, "National Security Forces in Contemporary American Society." NROTC is revising lesson guide #3 of Naval Science 101, "Introduction to Naval Science," to improve joint curriculum.

18. Col L.D. Holder, "Educating and Training for Theatre Warfare." Military Review, LXX (Fall 1988), 92.

19. LtCol Thomas E. Sheets, Training and Educating Marine Corps Officers for the Future, Military Studies Project, U.S. Army War College, PA., 1992, p. 2, from author's interview with LtGen Walter E. Boomer, USMC, Marine Corps Combat Development Command, Quantico, VA, 9 Dec 91.

20. B.H. Liddell Hart, The Rommel Papers (New York: Harcourt, Brace and Company, 1953), pp. 518-519, cited in "The Case for Officer Professional Military Education: A View From the Trenches," The Airpower Journal, III (Winter, 1989), 39.

21. Charles H. Coates and Roland J. Pelligrin, Military Sociology: A Study of the American Military Institutions and Military Life (University Park, MD: Social Science Press, 1965), p.

22. See Gary Hart and William S. Lind, America Can Win: The Case for Military Reform (Bethesda, MD: Adler and Adler, 1986), p. 177.

23. U.S. Department of Defense, Joint Pub 1, Joint Warfare of the United States Armed Forces: Joint Warfare is Team Warfare (Washington D.C.: GPO, 11 November 1991), p. 4.

24. Ibid.

25. General Vouno, former Army Chief of Staff, considered these three tenants to be pillars of the Army Officer Education System. He discussed their importance and inter-relationship in prepared testimony submitted to the Military Education Panel on 28 July, 1988. See U.S., Congress, House, Committee on Armed Services, Professional Military Education, Hearings, before the Panel on Military Education, House of Representatives, 100th Congress, 1st and 2nd sess., 1990, pp. 1371-1381.

26. Ibid. pp. 1376-1377.

27. Col Dennis M. Drew, "Jointness - The Fundamental Problem: A Review of Joint Pub 1," The Airpower Journal, VI (Summer, 1992), 60.

28. An excellent article on the formulation and impact of joint doctrine is Col Robert A. Doughty's "Reforming the Joint Doctrine Process," Parameters, XXII (Autumn, 1992), 45-53.

29. U.S. Department of Defense, Office of the Chairman, The Joint Chiefs of Staff, Joint Pub 1-01, Joint Publication System, Joint Doctrine and Joint Tactics, Techniques, and Procedures Development Program, 30 July 1992 (Washington: GPO, 1992), passim.

30. U.S. Department of Defense. Office of the Chairman, The Joint Chiefs of Staff. FY94-98 Joint Training Plan and Updated FY93 Schedule (S), 29 June 1992 (Washington: GPO, 1992)

31. U.S. Department of Defense, Office of the Chairman, Joint Chiefs of Staff, Report on the Roles, Missions and Functions of the Armed Forces of the United States (Washington: The Pentagon, February 1993), pp. X-XVII.

32. See speech by Representative Ike Skelton to the Military Education Coordination Committee at the National Defense University, as published in JPME On-Line: The Joint Professional Military Education Newsletter, (March 1993), 9.

33. The PAJE process will be completed by the end of 1994. PME schools still awaiting visits include: US Army War College, US Army Command and General Staff, National War College, Industrial College of the Armed Forces, Armed Forces Staff College, and Marine Corps War College.

34. Joint Chiefs of Staff, Joint Secretariat, Historical Division, Special Historical Study, JCS Responsibility for Coordination of the Education of the Armed Forces (Washington: typescript, 29 December 1982), 4-5.

35. Lt Col David Muhleman, "Curriculum Coordination Conference," JPME On-Line: The Joint Professional Military Education Newsletter (September, 1992), 4.

36. Dennis M. Drew, "Joint Operations: The World Looks Different from 10,000 Feet," The Airpower Journal, II (Fall, 1988), 14.

37. Dougherty Report. p. 2 of attached letter from General Dougherty to CJCS, Admiral Crowe, 7 May 1987, as cited in the Record on Hearings before the Panel on Military Education of the House Committee on Armed Services, 100th Cong., 1st and 2nd Sess., p. 13.

## BIBLIOGRAPHY

- Association of the United States Army. Goldwater-Nichols Department of Defense Reorganization Act of 1986: Its Impact on the Army -- A Primer. Arlington: Typescript, 1991.
- Blankenhagen, Edward E. and Rozman, Thomas R. "The US Army Officer's Learning Contract." Military Review. LXXI (Jul 1991): 75-77.
- Bossert, Phil. "The Increasing Importance of Joint Operations." The Military Art and Science Quarterly, II (Nov-Dec 1992): 23-24.
- Breckner, William J. "Reflections on an Air Force/Navy Exchange Tour." Air University Review. XXII (Mar-Apr 1971): 64-66.
- Coates, Charles H., and Roland J. Pelligrin. Military Sociology: A Study of the American Military Institutions and Military Life. University Park: Social Science Press, 1965.
- Collins, John M. U.S. Defense Planning - A Critique. Boulder: Westview Press, 1982.
- Crain, Richard W. "Developing Thinking Leaders." Marine Corps Gazette. 72 (Apr 1988): 32-34.
- Cushman, John H. "Joint, Jointer, Jointest." Proceedings. 118 (May 1992): 78-85.
- Davis, James R. "The Military Society: A Novel Idea for Professional Military Education." Marine Corps Gazette. 76 (Feb 1992): 23-24.
- Davis, Richard L. "The Case for Officer Professional Military Education: A View From the Trenches." Airpower Journal. III (Winter 1989): 34-44.
- DePuy, William E. "For the Joint Specialist: Five Steep Hills to Climb," Parameters. XIX (Sep 1989): 2-12.
- Donovan, G. Murphy. "Sustaining the Military Arts." Parameters. XIX (Sep 1989): 13-22.
- Doughty, Robert A. "Reforming the Joint Doctrine Process." Parameters. XXII (Autumn 1992): 45-53.
- Drew, Dennis M. "Joint Operations: The World Looks Different from 10,000 Feet." Airpower Journal. II (Fall 1988): 4-15.

- . "Jointness - The Fundamental Problem: A Review of Joint Pub 1." Airpower Journal VI (Summer 1992): 58-62.
- Eicher, James M. "The School of Advanced Warfighting." Marine Corps Gazette. 75 (Jan 1991): 46-47.
- Graffis, Judy M. and Michael M. Whyte, eds. Readings in Military Art and Science. Dubuque: Kendall Hunt Publishing, 1992.
- Hart, Gary, and William S. Lind. America Can Win: The Case for Military Reform. Bethesda: Adler and Adler, 1986.
- Holder, L.D. "Educating and Training for Theater Warfare." Military Review. LXX (Fall 1988): 85-99.
- House, Jonathon M. The United States Army in Joint Operations, 1950-1983 Unpublished, U.S. Army Center of Military History, 1992.
- Jordon, Amos A. Jr. "Officer Education." Handbook of Military Institutions. Ed. Roger W. Little. Beverly Hills: Sage Publications, 1971.
- Kiely, Denis J. "Are the Academies Worth It?" Proceedings. 117 (Jun 1991): 36-39.
- Kline, Dr. John A. "Education and Training: Some Differences." Air University Review. XXXVI (Jan-Feb 1985): 94-95.
- Lawson, Kenneth. "Introduction: The Concepts of 'Training' and 'Education' in a Military Context." The Education of Armies Ed. Michael D. Stephens. New York: St Martin's Press, 1989. 1-12.
- Linn, Thomas C. "The Marine Corps and Joint Warfare." Marine Corps Gazette. 76 (Jun 1992): 25-27.
- Lovell, J.P. "The Professional Socialization of West Point Cadets." The New Military. Ed. M. Janowitz. New York: John Wiley, 1967.
- Marshall, S.L.A. The Officer As A Leader. Harrisburg: Stackpole Company, 1966.
- Military Education Coordination Conference. Minutes of the Meeting at National Defense University, 9 December 1992.
- Miller, John E. "Training and Educating Leaders for the Future: The New CGSOC Curriculum." Military Review. LXXI (Jan 1991): 10-17.

Molinari, Joseph D. "Insights: The Need to Relook and Revise Military Education for the 1990s." Military Review. LXXI (Jan 1991): 77-79.

Muhleman, David. "Curriculum Coordination Conference," JPME On-Line: The Joint Professional Military Education Newsletter (Sep 1992): 4.

Muir, Daniel J. "A View from the Black Hole." Proceedings. 117 (Oct 1991): 85-86.

Palzkill, Dennis. "Making Interoperability Work." Parameters. (Sep 1991): 50-54.

Powell, Colin L. "Joint Warfare and Professional Military Education." JPME On-Line: The Joint Professional Military Education Newsletter. (Sep 1992): 1-2

Report of the Senior Military Schools Review Board on Recommendations to the Chairman of the Joint Chiefs of Staff Regarding Professional Military Education in Joint Matters (Dougherty Report). 7 May 1987. Attached to DEPSECDEF letter to Honorable Les Aspin, Chairman, House Committee on Armed Services, 2 Dec 1987.

Sheets, Thomas E. Training and Educating Marine Corps Officers for the Future, Individual Military Studies Project, U.S. Army War College, 1992.

Shelburne, James C., and Kenneth J. Groves. Education in the Armed Forces. New York: Center for Applied Research in Education, 1965.

Skelton, Ike. "Skelton Addresses the MECC." JPME On-Line: The Joint Professional Military Education Newsletter. (Mar 1993): 1-3, 9, 12.

Southwick, Curt B. "The Marine Corps Art of War Studies." Marine Corps Gazette. 75 (Jan 1991): 47.

Sukow, Tim J. "After All, an Officer's Principal Weapon is His Mind." Marine Corps Gazette. 76 (Mar 1992): 42-44.

Summers, Harry G. "Purple Suiters' Brigade." Washington Times. April 30, 1992.

Ullman, Bruce L. "Officer Professional Development for Lieutenants," Airpower Journal. IV (Fall 1992): 4-31.

- U.S. Congress. Public Law 99-433 [H.R. 3622]: October 1, 1986. Goldwater-Nichols Department of Defense Reorganization Act of 1986. In United States Code Congressional and Administrative News: 99th Congress-Second Session 1986. Vol. 1, Public Laws 99-241 to 99-499. St. Paul: West Publishing Co., 1987.
- . House. Committee on Armed Services. Panel on Military Education. Report of the Panel on Military Education of the One Hundredth Congress of the Committee on Armed Services, House of Representatives: One Hundred First Congress, first session. Washington: GPO, 1989.
- . ---. ---. Hearings Before the Panel on Military Education of the Committee on Armed Services, One Hundredth Congress, first and second sessions. Washington: GPO, 1990.
- U.S. Department of Defense, Office of the Chairman, Joint Chiefs of Staff, Military Education Policy Document, CM 344-90, 1 May 1990 Washington D.C.: GPO, 1990.
- U.S. Department of the Air Force. Air Force Academy. Air Force Academy 1992-93 Catalog. Colorado Springs: HQ USAFA/RRS (Admissions Office), 1992.
- U.S. Department of the Army. U.S. Military Academy. Course Syllabus and Schedule for HI 378 History of Joint Operations, Spring AY 1992-93. West Point: Department of History, 1 Oct 1992.
- . ---. West Point 92/93 Catalog: Education and Leadership for all Americans. West Point: 1992.
- U.S. Department of Defense. American Forces Information Service. The Armed Forces Staff Officer (DoD GEN-36A) Washington: GPO, 1988.
- . Office of the Assistant Secretary (Manpower). Officer Education Study (Draft), Vol I (Summary, Conclusions and Recommendations) and Officer Education Study (Draft) Vol II (Description, Discussion and Findings). Washington: GPO, July 1966.
- . Joint Chiefs of Staff. Joint Secretariat. Historical Division. Special Historical Study. JCS Responsibility for Coordination of the Education of the Armed Forces. Washington: typescript, 29 December 1982.
- . Military Manpower Training Report, FY 1992. Washington: GPO, April 1991.

- . Office of the Chairman, The Joint Chiefs of Staff, Joint Pub 1-01, Joint Publication System, Joint Doctrine and Joint Tactics, Techniques, and Procedures Development Program, 30 July 1992. Washington: GPO, 1992.
- . ---. ---. FY94-98 Joint Training Plan and Updated FY93 Schedule (S), 29 June 1992, Washington: GPO, 1992.
- . ---. ---. Joint Pub 1. Joint Warfare of the United States Armed Forces: Joint Warfare is Team Warfare. Washington D.C.: National Defense University Press, 1991.
- . ---. ---. Report on the Roles, Missions and Functions of the Armed Forces of the United States. Washington: GPO, 1993.
- U.S. Joint Chiefs of Staff. General Plan for Postwar Joint Education of the Armed Forces: Report of the Army and Navy Staff College (Richardson Committee). JCS Series 962/2 Washington: Typescript, June 1945.
- Wyly, Michael D. "Educating for War." Marine Corps Gazette. 72 (Apr 1988): 28-31.