Reflections on the Maxwell 'Revolution': John Warden and Reforms in Professional Military Education[1]

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Colonel John A. Warden III is synonymous with the once-celebrated and still much-discussed "five rings" approach to air power targeting that the United State Air Force and its partners first attempted to utilise in 1991 during Gulf War I. Warden is less well known for his later tenure as Commandant of the Air Command and Staff College (ACSC) at the USAF Air University, even though he undertook reforms and introduced several ideas that transformed that relatively isolated college into a stronger and more influential education centre. This article argues that Warden gained his appointment at the ACSC precisely at a time when, following the Goldwater-Nichols Act and the Skelton Report, the "professionalisation" of the USAF began to place far greater stock on education. The article demonstrates that, operating with relative freedom and according to an idiosyncratic vision for the ACSC, Warden increased the rigour and robustness of the ACSC and also proved helpful in developing and inculcating concepts of air power that undoubtedly changed thinking in the USAF, at least for a time.

Introduction

Colonel John A. Warden III is synonymous with his once-celebrated and still much-discussed "five rings" theory; the supposedly holistic approach to air power targeting that the United State Air Force and its partners first attempted to utilise, albeit only partially, in 1991 during Gulf War I. Warden is less well known for his post-Gulf War tenure as Commandant of the Air Command and Staff College (ACSC) at the USAF Air University, even though he undertook reforms and introduced several ideas that transformed that relatively isolated and unimportant college into a stronger and more influential centre of professional military education. One scholar recalled that Warden "stirred up that institution greatly".[2] This article will attempt to determine how the so-called "profession of arms" — a largely passé nineteenth-century phrase used collectively to denote those involved in organised military activity — came to be regarded as a true modern profession with its own body of theoretical knowledge, codes of conduct governed by "rules," skills unique to the profession and hard-to-master expertise that distinguishes the professional from the lay person. This article will then argue that Warden gained his appointment at the ACSC precisely at the time when the "professionalisation" of the USAF began to place greater stock on education and that he proved helpful in developing and inculcating concepts of officership that have undoubtedly benefitted the USAF.

It really is a profession

The study of military professionalism, military officers as professionals and professional military education institutions has emerged as a subset of the broader field of civil-military relations. Cathy Downes notes that the basic distinguishing characteristic between a profession and other occupations is the existence of a theoretical body knowledge and practical skills thereof derived. In other words, mastery of a distinct body of knowledge, and the judgments derived from it, serve as the foundation for the practical skills of professionals. Laymen, who have not been commissioned as members of the profession, would find it difficult to acquire the knowledge and skills unique to it.[3] This seems to create a type of professional monopoly.[4]

Samuel Huntington — who, along with Morris Janovitz, was a pioneer in the field of civil-military relations — was the first to define military officership as a profession and officers as professionals. The military profession, Huntington argued, is very similar to other professions in many ways, but is ultimately distinguishable from them in its reliance on a unique theoretical body of knowledge and a derivative skill-set related to the "management of violence".[5] On the basis of this definition, Gwyn Harries-Jenkins argues that the cardinal characteristics of a military professional are obedience and loyalty to the authority of the state, military qualifications, devotion to the use of professional skill in the defence of the state and moral and political neutrality.[6] Downes and others have observed that, while Huntington argued that the "management of violence" was the core activity of the military profession, his concept does not cover the entire range of activities in which military officers partake. Harries-Jenkins notes that Huntington's definition makes it inherently difficult to categorise the many military officers who satisfy non-combatant responsibilities (that is, roles involving no warfighting or "violence") as members of the military profession.[7] Clearly they *are* members, given that they share with the warfighters they work alongside the same body of theoretical knowledge, codes of behaviour, skills unique to the profession and hard-to-master expertise.

Social scientists nowadays believe that, in contrast to most professionals, but similar in some ways to medical doctors or lawyers in civil service, military officers operate within overarching, highly structured and stratified formal organisations: the armed forces. These organisations supervise the activities of their members, formulise the professional knowledge at their core, and establish the criteria and processes of recruitment and selection. Moreover, the positions allocated to professionals within the formal organisations are entwined with roles focused on the functional purpose of the organisations and not the professional vocation of the professionals. The autonomy of a professional employed in this type of formal organisation is consequently severely curtailed.[8] Leading scholars in the field now tend to argue that military organisations have a dual nature: professional and bureaucratic. In their view, professions focus on the creation of abstract expert knowledge which the professionals are then experts at implementing to solve tangible and substantial problems. In contrast, bureaucracies focus on the implementation of knowledge through routines and organisational procedures which their employees are expected to execute.[9]

Scholars now talk about the duality of expert military knowledge: formal knowledge recognised as the collective memory and practice of the military organisation and professional knowledge (including the complimentary skill-set) which underpins the expertise of every officer as a professional. A professional military organisation will seek to develop knowledge and disseminate it amongst, and inculcate it into, its members in order continuously to improve their competency and effectiveness. Military organisations may even be distinguished by the levels of their professionalism; that is, by the degree of their investment and effort in these activities. The growth of expert military knowledge is accomplished, among other means, through the development and implementation of formal, written military doctrinal literature in the military education system. Doctrine is the body of institutionally approved and widely articulated concepts, practices and procedures which inform and guide the role of professionals and give them senses of common purpose and common activity. It not only creates a better and clearer understanding but also enhances, or attempts to enhance, their sense of community and their *esprit de corps*. It is the codification of what military personnel should both understand (their beliefs) and do (their practices).[10]

Many militaries have a long history of orally disseminated doctrines which include informal and implicit beliefs that are, or should be, prevalent among particular groups.[11] Throughout the twentieth century, however, as war became larger in scale and more complex and multi-faceted in nature, militaries began to express their formal doctrines in written publications and regulations.[12] Nowadays, doctrinal literature goes far beyond informal and implicit beliefs. It is formal and explicit.[13] It is also now intimately connected with military training and education. To varying degrees doctrinal literature serves as the formal framework upon which training and educational curricula in the military are hung. Doctrinal publications in training and educational courses assist officers and others from different (sometimes seemingly unrelated) branches to develop common understandings, common practices and a shared abstract or conceptual language.[14]

Therefore, the main role of professional military education institutions is to equip officers with distinct and exclusive expert knowledge, shared values and the unmistakable sense of *raison d'être* unique to the profession. Unlike law or medicine, the professional military educational system not only prepares, trains and educates candidates for initial inclusion and "membership" within the profession, but also, through institutions of professional military education, continues to develop them and enhance their professional credibility and competency throughout their careers; indeed, right up to the very highest levels of their organisations.[15]

While reviewing the draft of this article, Influential air power scholar Phillip S. Meilinger highlighted another major difference between the training and educational environments (and indeed the moral cultures) of various professions: "The military is a unique profession because it has an 'unlimited liability clause' — you are expected to risk your life — something that, say, doctors or lawyers don't generally have to worry about."[16]

According to Martin van Creveld, the primary task of military education institutions, at least before the end of the twentieth century, was to educate officers to serve as commanders (or brigade, division and corps staff officers). The curriculum meandered between training and education, theory and practice, and military and non-military issues. On average, advanced-level courses in the military education institutions lasted one year. In partial compensation for the relatively short duration (less than almost all university courses), the academies imposed upon students heavy class loadings each week (far heavier than found in most universities). Until fairly recently, the teaching staff at the institutions was not comparable with that found in universities and other civilian tertiary institutions. Military instructors on advanced courses were usually majors and lieutenant colonels, who were not necessarily selected because of demonstrable relevant specialisations, much less credible and appropriate qualifications. Even in terms of classroom management, they seldom stayed in post long enough to create truly effective teaching and learning environments.

This situation notwithstanding, young PhD graduates whose academic qualifications (and teaching experience, in many cases) exceeded that of their military colleagues, often worked alongside them in staff colleges and other centres. Yet many of these recent PhD graduates appear to have been unsuccessful at gaining top-flight academic posts in the better universities within the wider academic market.[17] The heavy daily teaching load then allowed them few opportunities and little energy for professional development and for making significant progress with their personal research and publication programmes. Even less satisfactorily, the institutional reputation of military academies and colleges suffered from the fact that very few, even in the United States, were authorised to award degrees (particularly higher degrees) in military disciplines or indeed in any fields. Any military officers therefore wanting to undertake advanced tertiary study leading to higher qualifications within their profession had to go outside their profession in order to gain their qualifications.[18]

Winds of Change

This inadequate situation began to change in the last fifteen years of the twentieth century, when, for the first time, military academies, staff colleges and other institutions of learning began to take this issue of professionalism more seriously and to include far more credible teaching staff recruitment policies, far more robust and transformational curricula and improved accreditation strategies. Rather than being "in-house" training colleges in which military officers taught other military officers to think and act as they did, or as they believed the organisation wanted them to, the academies and staff colleges began to inculcate students with a profound sense of the value of broad and critical education in which they should learn how to think, not necessarily what to think. One of the key drivers in this process of transformation was the United States Department of Defense Reorganization Act of 1986, which was sponsored and drafted by Senator Barry Goldwater and Representative William Flynt "Bill" Nichols.[19] The so-called Goldwater-Nichols Act resulted from grave dissatisfaction at American military professionalism as well at the military's performance in Vietnam, Granada and during the bungled Iran hostage rescue attempt. The Act reorganised the Department of Defense with the aspiration of enhancing its jointness and diminishing the inter-service rivalries that had reduced effectiveness and weakened morale. Amongst its reforms, the Act elevated the importance of joint professional military education. In one key section it stated that "an officer who is nominated for the joint specialty may not be selected for the joint specialty until the officer (A) successfully completes an appropriate program at a joint professional military education school and (B) after completing such program of education, successfully completes a full tour of duty in a joint duty assignment."[20] The Act also mandated that each intermediate and senior training and education institution within the armed forces must periodically review and revise its curriculum in order to strengthen its focus on jointness and officer preparation for joint duty.[21] Just as important, an influential 1989 House of Representatives panel investigation into military education chaired by Isaac "Ike" Skelton IV produced an in-depth report — the so-called Skelton Report[22] — which stressed the need for military education institutions to provide more professional and highly qualified faculty and increased academic rigor within curricula.[23]

The Goldwater-Nichols Act and the Skelton Report were extremely influential in determining the way in which the US military understood professionalism and undertook training and education. By the beginning of the 1990s it had consequently become clear that, rather than slowing or impeding officers' careers as they previously had[24], postings into (and successes within) joint assignments had become a necessary condition for elevation to the highest of ranks or weightiest of responsibilities. Given that joint professional military education was a stepping-stone to the acquisition of key joint posts, this education finally seemed to matter to those undertaking it. It started to count.

When the Goldwater-Nichols Act transferred authority from the individual service chiefs to the Chairman of the Joint Chiefs of Staff, control of Joint Professional Military Education (JPME) passed to the Joint Staff. A new Joint Education Division (in J-7) emerged to oversee all JPME. The Division granted accreditation to various JPME programmes, determined objectives and standards for evaluation and special fields of emphasis and conducted periodic surveys of joint curricula provided by academies and colleges.[25] Although JPME was only one part of the curriculum in the single-service Command and Staff Colleges — in the Air Command and Staff College it constituted around 25% — the control of the curriculum asserted by the Joint Education Division and other agencies was considerable and impossible to ignore or challenge. Themes and topics considered necessary by the Joint Staff tended to reduce or squeeze out others. The Staff's authority, executed in many cases through officers with little experience in teaching and managing educational programmes, aroused resentment among the colleges' teaching teams that were forced to modify what they might otherwise have done.

During the late 1980s, the individual service war colleges responded to these pressures, and to their own desire for excellence, by developing far more robust and lengthy programmes dealing with joint issues. However, their application to receive formal accreditation did not always bear fruit. The turning point came when the Department of Defense adopted the recommendation of the Skelton Panel that there should be a two-phase approach to joint education. Joint Professional Military Education Phase 1 would be studied by all the students in service colleges and Joint Professional Military Education phase 2 would be studied only by those graduates of military colleges "en route to assignments as joint specialists".[26] The successful completion of the National War College and the Industrial College of the Armed Forces was set as fulfilling the requirements of both Phase 1 and Phase 2. Responsibility for teaching Phase 2 to graduates of the service colleges lay with the Armed Forces Staff College (AFSC).[27]

The influence of the Goldwater-Nichols Act and the Skelton Panel naturally extended to the Air Command and Staff College (ACSC) based within Air University in Montgomery, Alabama. Their direction and recommendations ensured that the academic year of 1988-1989 was the last year with a separate curriculum for officers designated for joint assignments. In the academic year 1989-1990 the school changed not only its curriculum, but also its mission statement so that they would both reflect the move to joint professional military education. In the academic year 1990-1991 this joint education rose in overall proportion by 3% from the previous year to constitute around 47% of the curriculum, and the college was authorised to have "joint professional military education phase 1 accreditation".[28] The curriculum included the five fields that the Joint Staff had considered necessary. These included joint forces and the operational level of war, organisation and command relationships and joint staff operations.[29] In addition, the warfighting area of instruction now focused on joint operations from a USAF perspective. These joint courses include the study of Army, Navy, and Marine Corps doctrine and operations.[30] The reforms even included a change to the ACSC's mission statement. It had previously been: "To broaden the knowledge and increase the professional qualifications of future commanders and staff officers, emphasizing combat and combat support operations". In the academic year of 1990-1991 the mission statement became: "To produce officers who understand the nature of war, the profession of arms, and the application of aerospace power at the theatre level of war".[31]

Brigadier General Phillip J. Ford — a former command pilot with a distinguished record who went on to gain a third star[32] — was at the ACSC's helm during this period of transition between 1990 and 1991 and he was undoubtedly adept at change management and enthusiastic about the newly articulated way forward. He believed that the new mission statement that resulted from a major internal review which he oversaw would better express the rigorous, intensive curriculum which placed the weight of emphasis and analysis on warfare at the operational level of war. Ford's new mission statement reflected his enthusiasm for operational art; an enthusiasm widely held during his peer group in the post-Vietnam era. In response to the Skelton Report, Ford had initiated a major overhaul of the ACSC, and was able to report in April 1991 that, as part of a new ten-year strategic plan (titled "2001"), the ACSC had already initiated actions on 30 of the Skelton Report's 31 recommendations pertaining to that college.[33] It had begun hiring more PhD-qualified academics and more masterate-qualified military directing staff (and providing better senior mentoring for all new instructors). It had initiated an instructor exchange programme with the Air Force Academy. This long-overdue up-skilling would certainly help. The training of instructors had been rather poor, as one student and later faculty member recalls: "They were sent to a 2 week instructor course … where they were given the basics of teaching and lesson planning. Once this was completed they took leave and got an overview of the curriculum. This meant that their major qualification to teach was that they had taken the course as a student."[34] Under Ford the ACSC had also added far more lectures on strategy and the strategic process. It began using active and retired three and four-star speakers more frequently, and it was making improvements in the student-faculty ratio.[35] Brigadier General James S. Savarda, another command pilot, continued this drive for improvement when he took over from Ford in July 1991.

John Warden and the ACSC

When the "hard-working and serious" Colonel John Warden became the Commandant in August 1992[36] , his grand reputation and larger-than-life persona completely overshadowed the substantial amount of transitional work already in progress. His biographer, John Andreas Olsen, does not even name Savarda, Ford or any other ACSC Commandant.[37] It is as though the ACSC only really began when Warden arrived, despite its invaluable role at critical times during the previous six decades and the improvements already being made by his immediate predecessors. Another of Warden's admirers typifies the adulatory views of this epiphany: "A change agent was desperately needed. That's where Colonel John Warden comes in. He arrives at ACSC in the summer of 1992 with a plan to bring the school out of the past and prepare today's students to win tomorrow's wars."[38] Another of Warden's supporters, who served as a trusted faculty member at the ACSC, later wrote: "I knew that John was not coming to ACSC on anything less than a mission from God."[39]

According to Olsen, who makes no mention of the work-in-progress, Warden inherited a college best described as a withered institution with few genuine academic accomplishments or aspirations.[40] Using only two interviews as evidence, Olsen asserts that officers studying at the ACSC generally considered the year as "time out" from operational command and accordingly not especially useful except for the chance to spend more time with families and on networking. Warden himself apparently agrees that this idea of "time out" from real career-related activities was in the minds of many of the students for whom he assumed responsibility.[41] Moreover, according to Olsen, many of the faculty members seemed to have little true interest, if any, in academic issues.

This view may contain a degree of truth regarding students' expectations — flying was more important in terms of promotion than academic interests[42] — yet it is not entirely fair to the splendid academics who were already on the staff before Warden arrived. As James S. Corum points out: "There were some very competent and well published faculty at ACSC, at least among the civilians, who could easily meet any good university faculty standard. Dr. Rich Muller had just been hired; I believe before Warden came. Lou Ware was writing as a regional expert; highly competent.

Karl Magyar was also well published and involved in teaching pol sci."[43] One of the academics that Corum singles out for praise, the well-regarded and well-published Dr Richard R. Muller, believes that the faculty *was* generally committed. The problem was not lack of personal interest, but lack of collective battle-rhythm intensity. "ACSC faculty duty before Warden arrived," he believes, "was not especially demanding. If you really wanted to get involved and work hard, the opportunity was there, but it was also possible to get by with doing relatively little work. A joke that was common currency my first year was that the wing of the building housing the [academic] faculty offices was known as 'The Dark Side' — early in the afternoon, most of the offices were dark."[44]

Warden was very fortunate to arrive at the ACSC during this period of comprehensive change within the military education system in the United States. With Skelton's report asserting that education within all services and at all levels needed to be improved, both substantially and quickly, Warden and other military education heads across the country knew that they would enjoy far more latitude and scope for creativity than they might ordinarily have received. Warden felt ready for the challenge. After many years in command and staff positions, and having read, reflected and even published on airpower theory (including a book celebrated for a time[45]), he believed he knew what the USAF required, and would in future require, of its corps of officers. The USAF was excellent at planning and conducting warfare at the operational level, but it was not yet especially good (and its officers were not very experienced) at understanding strategy; that is, at coercing and defeating enemies conclusively. In this sense he saw his new post at the ACSC a little differently to Ford and other predecessors, who had accepted a focus on operations and not on strategy. Warden wanted to raise thinking at the ACSC to a higher level; to develop in students the capability to examine problems from a loftier strategic perspective.[46] He expressed his aspiration in a new vision statement that he gave to the College. The "world-class educational institution," as he wanted the ACSC to become, would henceforth "educate midcareer officers to develop, advance, and apply air and space power in peace and war".[47] Accompanying the vision statement were a set of stated objectives highlighting the importance of freedom of thought, critical thinking and an analytical and creative approach to problem-solving. Interestingly, given his desire to raise horizons, most of these objectives referred not exclusively to the strategic level, but also still to the operational level.[48]

Warden wanted to get stuck in straight away, yet, aware that he first needed to gain "buy-in" from his staff members, who might otherwise dismiss him as an outsider, he made no immediate changes.[49] Indeed, during the initial half of his first academic year (1992-1993) the curriculum remained unchanged in its traditional focus on the Cold War[50] , which had only just ended to everyone's surprise.

Warden now recalls this period

differently. He dramatically maintains that he strove to carry out reforms at the ACSC as quickly as possible because he somehow knew he would gain fierce opponents and that he should not give them time to unite. He remembers anticipating opposition from three directions. Senior officers were likely to protest at the strengthening of curriculum requirements and the burden of work that students would have to carry. His faculty would dislike and maybe oppose the changes he wanted made to teaching methods, work culture and study topics. He also maintains that the ACSC students themselves would probably have been angry that, instead of having a relatively easy period of time out, they would have to work hard in a robust academic programme.[51]

The truth is probably somewhere between these two versions of events. Warden did want to signal his intent very clearly. He gave introductory speeches in which he revealed his near obsession with campaign planning, an d he spoken openly about the raising of standards.[52] In one of his earliest meetings with the entire faculty shortly after he took command, "he let everyone know that the Cold War was over and that the school needed to change with the times."[53] One of his new academics notes: "I think he had a clear idea of how he wanted to change things, but he made it clear that he would be open to the ideas of others and that everyone would get a hearing."[54] Indeed, he brought his staff along quickly but at a measured pace, trying to gain their support and trust at each step and trying not to alienate any to the point of mutiny. Having an oppositional staff would greatly inhibit him in his aspirations. Warden knew there were naysayers, "but he remained temperate and patient with them and "assumed they would come around eventually; if not, he would gently marginalize them."[55] A former School of Advanced Airpower Studies (SAAS) professor agrees with this picture: Warden was "always sincerely friendly. I suppose that he just believed that if we listened to talks on airpower long enough we would all see the light and embrace [his views on] airpower."[56] This scholar remembers that Warden was right to work on winning over "the competent civilian academics who might subject his views to some strong academic critique. There was an attitude among some civilian faculty that John was a very bright guy — but no genius — and someone who had a bit of the Billy Mitchell 'I've got the answer' syndrome."[57]

Change Agents or "Conspirators"?

The staff members were used to new commandants appearing every eighteen months or so, with almost none of them possessing any real academic experience beyond having been students themselves.[58] They then tended to disappear before they had accomplished much of their "vision". A number of Warden's new team members therefore were, despite their appreciation of his preparedness and enthusiasm, initially wary in case he proved to be yet another commandant who left before finishing the transformation, thus leaving a trail of chaos in his wake.[59] Warden's most enthusiastic faculty member was Lt. Col. Larry

Weaver, who already had a connection to his new boss, having been Warden's son's academic advisor at the Air Force Academy.[60] A recent ACSC graduate, Weaver saw this period as a unique opportunity for change.[61] Even before Warden had arrived, Weaver had written for him a secret memo — he later described it himself as a "leak" — outlining for the incoming head what he perceived needed to be done to fix existing weaknesses.[62] Soon after Warden's arrival, even while the Vice-Commandant and the Dean (Colonels Payne and Hall) were trying to find the source of the leak, Weaver began to coordinate an informal working group to get changes started and made quickly. Initially it included Richard Muller, Dr Earl Tilford, and Lt. Col. Albert Mitchum and later gained the support of a further eight instructors.[63] Weaver believed that the instructor force was the "heart of the revolution," as he later excitedly described it, drawing strange parallels with the French Revolution.[64] Weaver later told one of the authors of this article, Tamir Libel, that after Warden had revealed his desire to give the ACSC a shake-up, he told Warden "that every revolution needs a Robespierre … and that I wanted to serve that function. … We actually all took names from the French Directory as a type of tribute to forthcoming revolution."[65] This group of twelve instructors met often throughout the autumn of 1992 to conceive and design a new Air Campaign Course curriculum that better accorded with Warden's vision and encouraged students and faculty to think far more critically than hitherto about airpower and the planning of air campaigns at the operational level and within the context of grand strategy.[66]

Frustrated by the fact that "seminar packages" had grown over the years without coherence, with various lectures being added apparently on the whim of whoever happened to teach them in any given year, Warden and his colleagues aimed to do better. They wanted a tight, consistent and focused syllabus that had far more breadth and depth.[67] They worked hard to develop a challenging new ACSC syllabus of intellectual enrichment with a brand-new Air Campaign Course as its heart that included all key aspects of air power and even space power (then a relatively poorly understood branch of strategy) being taught comprehensively from the highest strategic level right down to the placement of ordnance on targets. Moreover, students would need to read, read and read some more; and it was not only a quantitative issue, but also a qualitative one.[68] To Warden, "ideas were important."[69] Rather than the readings seeming to have been randomly picked by lecturers without much thought on how the individual pieces contributed to the development of a set of weighty critical ideas, henceforth readings would be carefully chosen as mutually supporting bricks that fitted together to construct an edifice of true analytical merit. The team also went beyond the inductive cognition that had traditionally underpinned military education to begin stressing the value of deductive reasoning, all with a view to making students more critical in their thinking and more imaginative in their problem-solving. This was sorely needed, especially as there was still an "Air force culture" that wanted the Air University and its colleges to be primarily "an 'advocacy force' for airpower."[70]

By bringing this new approach to the study of air power conceptual thinking, Warden planned to imbue the College with a genuinely transformational educational programme. His colleagues toiled intensively during the fall of 1992 to create the Air Campaign Course, and planned to introduce it to the following course; that is, during the fall of 1993. However, after seeing the splendid progress his team had made in a very short period, Warden informed his first cadre of students, just before they left for their Thanksgiving holiday, that in the second semester they would be able to undertake the Air Campaign Course as an option.[71] The students were not the only ones to feel gobsmacked by the lack of lead-in time. So were the staff members. Even Weaver, his most ardent supporter, felt bothered by the fact that, although the new course seemed extremely good, the teaching staff members were not yet fully read into its complexities and ready to commence teaching it. Warden's rush had another problematical effect. Lecturers would have to cope with a swollen workload because of the fact that, despite the newly inserted option, they would still have to teach the original curriculum at the same time. Surprisingly, given that teaching staff members explained to students that the new Air Campaign Course would demand far more focus and effort, at the end of the holiday 103 out of 580 students began the new course.[72]

Unusually for a Commandant, Warden himself gave a significant series of lectures. Less surprisingly, his chosen topic was the strategic and operational levels of war particularly as they pertained to Gulf War I[73]; the war supposedly won largely because of "his" lauded air campaign. Indeed, Warden's five-ring model for strategic and operational targeting prioritisation formed the heart of the new course. His biographer insists that Warden did not try to foist his five-rings model onto students as a solution, but presented it only as an example of the type of conceptual thinking that managed to simplify complex strategic issues.[74] One of Warden's own friends, Phillip Meilinger, sees it differently, noting that Warden placed a "heavy emphasis — proselytizing would not be too strong a term — on his Rings model as a targeting theory".[75] Meilinger's view is more reasonable than Warden's biographer's. It is implausible to believe that students would not have understood that the paradigm presented to them in person by its then-famous "war-winning" architect, who also happened to be their own larger-than-life commandant, was merely a model for their consideration, and not *the* model for their adoption and acceptance. It seems unusual and a little incongruous, given Warden's own stated desire for critical thinking, scepticism towards what Meilinger calls "entrenched thinking"[76] and an emancipating learning environment, that he used his powerful position as Commandant to project his own ideas onto students whilst still expecting them to be able to criticise them as robustly and openly as they might challenge or interrogate any other set of ideas. The frequent presence at the ACSC of some very senior USAF officers — there to provide Warden with the type of top-cover he felt his "revolution" needed[77] — could only have strengthened the view of some students that the well-connected Warden's five-ring model was now *their* model.

Some faculty members were less than enthusiastic about Warden's evangelical emphasis on his own ideas, which struck them "as both questionable in logic and overly mechanistic. Should ACSC teach a theory of war billing itself as *most* relevant in the modern era? Can war possibly be that predictable and formulaic?"[78] Richard Muller, who remembers that, even before Warden arrived, his reputation as an air power "advocate, and perhaps a bit of a zealot," had preceded him, recalls that a number of ACSC academics "had intellectual disagreements with the 5 rings and the focus on air campaign planning; the SAAS faculty at the time was among the leading critics. Some argued persuasively that such models were artificial, mechanistic, and of limited utility."[79] Indeed, Dr James S. Corum, then an air power academic at the SAAS, remembers that "there was less an interest in fighting John's changes than in making sure the ACSC did NOT teach the five rings as dogma, and that airpower theories — how airpower wins wars alone — were subjected to some critical tests."[80]

These issues notwithstanding, and despite the Air Campaign Course causing a few problems for both those students who took it and those who did not, the ACSC received positive feedback overall on the new curriculum. Even aside from grumbles over the issues mentioned, and complaints about organisational and administrative issues, students seemed to believe that the content and methodology were beneficial and suitable for the education of future air force leaders.[81]

Warden and his team (of what even his reverential biographer calls "acolytes"[82]) continued to change and update the course, and when the class of 1994 began, the curriculum included ten disciplines: professional skills; war, conflict and military missions; military theory; strategic structures; operational structures; campaign concepts; air campaign; campaign termination; future campaigns (beyond 2000); and an end-of-course exercise.[83] Some of these topics were brand-new whilst other had been updated according to Warden's vision. Believing that students should already have gained the rudiments of management by the time they reached the ACSC, Warden changed the focus of the professional skills course and aspects of other courses away from staff work and management and, through revised curricula and readings focused on great commanders, onto the deeper and richer human aspects of leadership, particularly at higher levels. This was not pleasing to everyone. "Some of the military faculty believed that part of ACSC's mission was to teach the elements of squadron command, and they believed Warden's campaign-focused approach gave that short shrift. ('Where's the 'Command and Staff' in Air Command and Staff College?' was a comment sometimes heard in the halls.)"[84] Richard Muller recalls "one faculty member who I greatly respected — he was a former commander, a great teacher, and in general a stand-up guy … thought Warden was on the wrong track, and left ACSC."[85] Phillip Meilinger, who was Dean at the SAAS (and in fact the real dynamo of creative American air power thinking during the period) while Warden was Commandant of the ACSC, highlights the central issue of the disconnection between professional development and preparation and pure education:

> *I always viewed SAAS and for that matter ACSC and AWC as 'professional schools,' not academic ones. The mission of the typical academic college is to train and educate the mind. A professional school — like a law or medical school — is actually focusing on turning out people who will PRACTICE what they learn in school. Same with a war/staff college. I think it's a different focus and distinction but an important one.*[86]

Warden not only kept his grasp firmly on the curriculum, but he also continued to teach far more often than predecessors (some of whom had never taught) and always, almost evangelically, with his own five-rings model as the centrepiece of his ideas. Warden's response to criticism from his staff or students was often to agree that his paradigm might be imperfect, but to remind his critics that it "offered a conceptual starting point; it was up to the critics to offer a better alternative." He had a point; "unlike [OODA Loop pioneer] John Boyd, Warden put down some key ideas on paper which could be examined and debated on their merits."[87] He also lectured occasionally at the SAAS, where he was personally very well liked.[88] After one lecture "he was asked how one could apply the 5 rings or an air campaign to a non-state enemy — insurgent or terrorist group — one that had no strategic targets, fielded forces, key infrastructure and hid among the population. How did one defeat these types of enemy with airpower? He replied airily, 'Oh, we won't fight those kinds of wars.' Some of the SAAS faculty thought it was pretty neat that a USAF colonel got to decide who America might fight and whether we would go to war."[89] Warden also used to give his rings briefing to ACSC visitors and, Meilinger notes, "of course he was masterful at explaining it all and leaving his guests wide-eyed." On the other hand, "when he wasn't around … one of the other colonels had to give his briefing. Ouch. I remember commenting at the time that it was like the frontier town on a movie set. Looks good on main street, but please don't open any of the doors [in other words, don't probe the speaker] cuz there ain't nothing beyond those doors but prairie."[90]

Warden felt critical of the research skills that the ACSC students had demonstrated during his first year, so he put his effort into raising their game. Basing his approach on his own Pentagon, Gulf War planning team and White House experiences — in which collaborative intellectual effort including "brainstorming" proved more important than individual effort — he took a dim view of the traditional personal research papers on which the students had always worked all year and which were, he thought, judged mainly on style, structure and scholarly paraphernalia.[91] Students should also research and write projects in teams of twelve or so.[92] This was, after all, probably going to be how they would work when they joined staff and planning teams later in their careers. Few would do independent research.[93] He had his former colleagues throughout the USAF propose new research topics and he even had some student research groups undertake classified projects for the Chief of the Air Staff.[94] Although this approach sounds impressive, the results were not always successful. One Maxwell academic who served as an external evaluator, and remains critical of this novel team-research methodology, recalls:

> *Warden believed that if you got a group of USAF officers together — with no real professional advising, no real academic background — those Air Force officers would come up with something brilliant. He had a huge budget, far beyond what the Army or USMC ever had for students. [In this fashion] he [thought he] was going to revolutionize military thinking by this student research.*[95]

This critic lamented the results of Warden's experiment. They were, in his view, "pure farce." Dominant group members (who were not necessarily the most intelligent) tended to thrust their personalities upon the group and lead them not only to follow some illogical methodological practices but also to develop weak arguments and to reach unsustainable conclusions. "In short," the critic writes, "a group of unsupervised Air Force officers came up with AWFUL research." This opinion is an individual view, and should not therefore be treated as authoritative. Yet it does reveal that, for all his impressive qualities, Warden, who was inexperienced in pedagogy but keen to have his student do things they way he did, did not get everything right all of the time. One of Warden's academics, Richard Muller, agrees, recalling that "the research program was not one of Warden's most successful initiatives." While agreeing that "there were some abysmal group projects," he is nonetheless not as dismissive as our first commentator.[96] Muller notes that some of the projects were in fact "quite worthy" and adds:

> *One also cannot ignore the educational benefit these students gained from the process. Even if their final written projects fell short, I think we helped the students develop critical thinking and writing skills. One ACSC student I recall developed an interest in military history as a result of his research project, joined the ACSC faculty, was selected to pursue a doctorate at a civilian university, and eventually came back to ACSC as the Dean.*[97]

As it happened, the experimental group-research projects did not long survive Warden's tenure. Some group projects (usually Chief of Staff directed studies) are still undertaken at the ACSC, but most students today either take an elective class with an associated research project or conduct individual research with a faculty advisor.[98]

Warden and his colleagues continued to press students to read far more. They also secured funding — actually on such a vast scale that he faced accusation of wasting taxpayers' money[99] — for the College to give students sets of books that would belong to them and form the core of their personal libraries. These included novellas and science fiction works intended to encourage students to think about unusual, distant problems.[100] Clearly to those who thought he was wasting money, science fiction must have seemed bizarre. He reacted to criticism by saying that his book budget was much less than a one-hour training exercise in an F-15.[101] All this reading came with what some observers saw as another cost. Because of their awareness that reading and valuable reflection were vastly time-consuming, the team reduced the amount of time that students would spend in the classroom each week. Many of the veteran faculty members shook their heads or even opposed this change[102], yet Warden brushed aside their concerns and ring-fenced reading time by keeping classroom hours to what he called the right amount. This did not make the course easier. He correspondingly increased the amount of homework students would have to do.[103]

Warden also modified the faculty departmental structure. Curriculum development shops (which were aligned along single-disciplinary lines) developed lesson materials. Then, different groups of faculty instructors went into the classrooms to present the material developed by others or (more usually) to oversee the students presenting the material to each other. Wanting to increase his instructors' inter-disciplinary expertise and strengthen their commitment to each other[104], Warden got rid of this system. The faculty members assigned to each multi-disciplinary department (then called a "beam") henceforth both developed and taught their own material. Richard Muller notes that"this was a sea change in how the school did business".[105] He adds:

> *At ACSC today, however, the departments are organized more or less along disciplinary lines (This realignment took place in 1999.). This was a natural prerequisite for getting the school's program accredited, as faculty expertise in the subject matter had to be demonstrated. This made for a more credible faculty, but it is true that some of the interdisciplinary benefit was lost. I, for example, benefited greatly from teaching air campaign planning for a number of years.*

The technophilic Warden initiated or approved other changes that had a significant and lasting impact on the college. He wanted students to master computer technology and to gain benefit from them. Supported enthusiastically by his boss, Lieutenant General Jay W. Kelley, Commandant of Air University and Director of Education, Air Education and Training Command, he managed to secure an unprecedented amount of money (four-and-a-half million dollars, in addition to the book money[106]) for computers and a local network upon which students could gather information, undertake joint activities and even run wargames. Shortly thereafter each ACSC student benefitted from a personal laptop and other computers were available throughout the college.[107]

Short-term Reforms or Lasting Legacy?

Warden's successor as ACSC Commandant in August 1995, Colonel (later Major General) John W. Brooks, was not intimidated by Warden's reputation or compelled slavishly to follow the direction that he had taken. When he learned that Warden wanted to appoint his old mate T.K. Kearney as Dean of the ACSC faculty just before he retired, Brooks saw this as Warden trying to put in place a supporter who would control the curriculum and prevent any changes. Brooks therefore told Warden not to try appointing Kearney. "John reportedly answered that he was still Commandant and he could appoint him if he wanted to. Brooks said, yes you can, but I'll fire him the first day I take over, so let's not embarrass T.K. in front of everybody."[108] Warden backed down. Even if this story and the inter-personal issues within it are impossible to verify, its existence testifies to Brooks' independence and desire to do things his own way.[109] "Brooks was a very smart guy," Phillip Meilinger recalls, who was "later a two-star and could have gone much higher but he had a very sick wife so chose to retire and reduce his work load." Meilinger remembers Brooks agreeing to keep many of the constructive changes that Warden had made, whilst also shifting the emphasis back towards the ACSC's customary role as a centre of excellence for the preparation of staff officers who could actually do staff work: "He came up with a clever device for describing the mission of ACSC: A is for Air; that's what we focus on here; C is for Command because we teach leadership; S is for Staff because we also teach you admin and how to be capable staff officers at a major headquarters; and C is for College, because we are an academic institution that takes study and ideas seriously."[110]

To re-orient the ACSC on what he believed should have been its key mission — preparing leaders for senior staff posts — Brooks reduced the centrality of Warden's beloved Air Campaign Course within the curriculum and even decreased the number of hours it contained.[111] Brooks also felt bothered by Warden's experimental group-research projects, seeing in them the same flaws as those mentioned above. He scrapped them, returning research to an individual activity.[112] He valued research, but did not want to see that become a dominant focus of the ACSC, must less have the college morph into something like the RAND Corporation[113] (to which James Corum quips: "given the low quality of the research, that was NOT a problem"[114]). Brooks also found himself part of a pattern in Warden's life: like others who had succeeded Warden in various posts throughout his career, he found that Warden, despite his quick mind and success at challenging established ideas, was not a starter-finisher. He left many unfinished tasks for Brooks to finish and several ad hoc systems to regularise.[115] That is, of course, typical of those with creative intellects. They have bright ideas and devote tremendous, almost frenetic energy into making them happen, but they do not always spot any flaws in them and they seldom fully appreciate the turbulence they cause for those around them. Nonetheless, in Warden's case we should not mistake turbulence for resentment or even dissatisfaction (although there were clearly pockets of both during Warden's tenure). As Richard Muller writes:

I found him to be a very inspiring leader.

He had an exciting, dynamic vision for the school and made it clear that there was a part for everyone who wanted to "play." I remember the department I was assigned to at the time, War Theory and Campaign Studies, had very high morale — in spite of the long hours and hard work required to build and teach the new curriculum. T shirts extolling "The Dead Theorists Society" and "John Warden and his Campaign Orchestra Road Crew" were often to be seen at social events. Those of us who really wanted to raise the bar at ACSC found the whole thing very exciting, and we moved forward with a great sense of unity and purpose.

Warden himself now very humbly acknowledges that his own single-service focus and enthusiasm, and his relative lack of interest in communicating his concepts outside of the USAF and other air forces, may have reduced the breadth of the ideas' influence in wider military circles. Because first and foremost he wanted airmen to know *their* business, he was not as joint as he probably should have been. He actually then believed that the burst of recent national interest in jointness had created a bureaucratic unwieldiness, shallow theoretical publications and decreased freedom of thought and creativity in the services.[116] He therefore saw little importance in greater interaction with his peers in the other service command and staff colleges.[117] This lack of interaction naturally meant this his own students were not gaining much exposure to emerging ideas from outside the USAF. At that time the US Navy probably had the best quality programs from an academic perspective. The Naval War College and its postgraduate school were doing some excellent creative thinking, perhaps the most academically robust of all the service college, and the Marines and the Army were themselves becoming more robust than ever. Enhanced dialogue might have born fruit for everyone.

To be fair to Warden, his obsession with getting airmen to think about air power *may* have come at a cost in terms of their joint conceptual thinking — although even this observation cannot be more than conjectural — but it did add tremendous impetus to the renaissance in air power thinking that he, Phillip Meilinger and others kicked off. His own ideas remained at the heart of that renaissance for at least a decade and, even though they have ceased to be central (at least explicitly during discussions), they prompted weighty analysis by other thinkers that has greatly enhanced philosophical, conceptual and doctrinal approaches to air warfighting. Yes, Warden did push his ideas with missionary zeal whilst Commandant of the ACSC, but his motive for doing so grew not from egotism (even though he was prone to accusations of self-absorption and hubris[118]), but from an acute, genuine and well-founded concern that he needed to get airmen thinking about air power and united in that process. He once commented to Phillip Meilinger that "he DID want a single air targeting theory to be taught at ACSC," in much the same way that between the world wars the Air Corps Tactical School (ACTS) had taught industrial web theory. When Meilinger replied that the ACTS had been "more wrong than right," Warden replied, quite reasonably, that he would rather have people on the same page with something that might not be perfect than have the "chaos of everyone coming up with their own theory of airpower."[119] His advocacy should in fairness be seen in this light.

Concluding Thoughts

It is difficult to make any conclusive determination of whether Warden's tenure as Commandant of the Air Command and Staff College had lasting influence within the USAF and, if it did have, whether that influence proved especially important in the long run. Such things are hard to measure. Certainly many of his organisation and curriculum modifications were further changed or even undone by his successors. Yet it is hard to deny that Warden's desire for change, which by serendipity coincided with a wave of transformational empowerment flowing from the Goldwater-Nichols Act and the Skelton Report, had a seismic effect at the ACSC and that, for all the faults of his approach, the ACSC increased in energy, credibility and effectiveness. Warden may have been a zealot and a maverick — it is the opinion of almost everyone interviewed for this article and indeed also for Olsen's biography — yet he did see his air force as a professional body and its officers as professionals. He took very seriously the notion that the professionals in his stewardship needed to master a distinct body of knowledge, and to form sound judgments derived from it, so that these might serve as the foundation of their practical skills (the application of air power at the operational and strategic levels). And even if we can today see weaknesses in Warden's own concepts, which he hoped would serve as a central core of their knowledge, he did enthusiastically and sincerely work to ensure that they understood it, internalised it and were able to discuss and debate it. His criticism that the ideas which previously dominated the ACSC had been relevant primarily to the Cold War, and were therefore at least partly anachronistic, is ironically true in terms of his own five-rings model, which has more utility in inter-state conflict than it does in intra-state conflict of the type that has sapped American and coalition energy since 2003. Yet it was not unreasonable in the early to mid-1990s to try to articulate a set of concepts which then seemed applicable to the strategic context and which would serve as a unifying body of knowledge for airmen operating as a professional body within that context. Warden's time at the ACSC fortuitously overlapped for a while that of Phillip Meilinger at the SAAS, which organisationally actually came under the ACSC at the time.[120] These two men saw the world, and air power, in fairly similar terms and, despite their very different styles and methods, together they made commendable strides in getting the rather elephantine USAF to think more (and more conceptually) about its nature, purpose and aspirations. Exaggeration must be avoided. In terms of change, their strides were small. Pushing the elephant far or fast was always going to be an impossible task. Yet they contributed to, and may even have kicked off, a period of blossoming in air power thought, one that spread internationally and left a distinct mark on professional air power education. Warden's book, his fame as a Gulf War I planner and even his governance of the ACSC are still discussed and seldom ignored by scholars who chronicle the evolution of air power. The ideal quote with which to conclude this article is thus a pithy observation from Richard Muller: "My bottom line on Warden: His ideas were not perfect. His methods sometimes created turbulence. But he was exactly what ACSC needed at that time. I would not trade those three years I spent working for him for anything."[121]

Notes

[1] Some of Dr Tamir Libel's preparation for this jointly researched article occurred during the writing of a doctoral dissertation supervised by Professor Stuart A. Cohen at the Department of Political Studies in Bar-Ilan University, Israel.

[2] David R. Mets, *The Air Campaign: John Warden and the Classical Airpower Theorists* (Maxwell AFB: Air University Press, 1998. Revised edition 1999), p. 58.

[3] An excellent starting point for readers interested in this topic is Matthew R. H. Uttley, "The Air Power Profession: Adaptations to Continuity and Change in the Strategic Environment, in Joel Hayward, ed., *Air Power, Insurgency and the "War on Terror"* (Royal Air Force Centre for Air Power Studies, 2009), pp. 21-28.

[4] Cathy Downes, "To Be or Not To Be a Profession: The Military Case," *Defense Analysis*, Vol. 1, No. 3 (1985), p. 148.

[5] Samuel P. Huntington, *The Soldier and the State: The Theory and Politics of Civil Military Relations* (Cambridge: Harvard University Press, 1957), p. 11.

[6] Gwyn Harries-Jenkins, "The Concept of Military Professionalism," **Defense Analysis**, Vol. 6, No. 2 (1990), pp.120- 121.

[7] Ibid., p. 120.

[8] Marina Nuciari, "Rethinking the Military Profession: Models of Change Compared," *Current Sociology*, Vol. 42, No. 3 (1994), pp.7- 8.

[9] Don M. Snider and Gayle L. Watkins, "Introduction", in Don M. Snider, Gayle L. Watkins and Lloyd J. Mathews, eds., *The Future of the Army Profession* (Boston: McGraw- Hill, 2002), pp.7- 9.

[10] James J. Tritten, *Naval Perspectives for Military Doctrine Development* (Norfolk: Naval Doctrine Command, 1994), pp.1- 2.

[11] James J. Tritten, *Lessons and Conclusions from the History of Naval and Military Doctrinal Development* (Norfolk: Naval Doctrine Command, 1995), p.4.

[12] Tritten, *Naval Perspective*s, p. 3.

[13] Tritten, *Lessons and*, pp. 16-17.

[14] Tritten, *Naval Perspectives*, p. 14.

[15] John W. Masland and Laurence I. Radway, *Soldiers and Scholars: Military Education and National Policy* (Princeton: Princeton University Press, 1957), p. 55; Michael Evans, *From the Long Peace to the Long War: Armed Conflict and Military Education and Training in the 21st Century* (Canberra: Australian Defence College, 2007).

[16] Phillip S. Meilinger's written comments to Joel Hayward, 7 September 2010. The authors of this article are naturally mindful that individuals not only perceive things differently, but that they also *remember* them differently. Given that this article draws upon the memories of several former faculty members, who are looking back on the events under discussion after almost twenty

years — two decades in which their own experiences have differed, as have their levels of contact with each other and with John Warden — this article highlights many of the challenges faced by historians when using information gained from participants' interviews. Complex issues of objectivity and bias are compounded by the malleability and fallibility of the human memory. That is not to say that our interviews have added little or are unreliable. On the contrary, they have enriched our analysis beyond measure and, so long as readers understand the thorny issues mentioned above, they provide invaluable information and colour.

[17] Martin van Creveld, *The Training of Officers* (New York: Free Press, 1990), pp. 81, 87.

[18] Ibid., pp. 81- 82.

[19] **https://digitalndulibrary.ndu.edu/cdm4/document.php?CISOROOT=/goldwater&CISOPTR=956&CISOSHOW=869**

[20] §661 (c).

[21] §663 (b) & (c); John A. Brewster, *Time to Overhaul the United States Air Force's Air Command and Staff College* (Research Report, Air Command and Staff College, 2006), p. 2.

[22] *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* (US GPO, 1989). Hereafter cited as Skelton Report. Available online at: **https://digitalndulibrary.ndu.edu/cdm4/document.php?CISOROOT=/nduldpub&CISOPTR=4418&CISOSHOW=4211**

[23] Brewster, p. 2.

[24] Ibid., p. 4; Christopher A. Feyedelem, *It's Time to Rethink JPME II* (Research Paper, Naval War College, 2004), p. 2.

[25] Thomas. A. Keaney, "The War Colleges and Joint Education in the United States," in Gregory C. Kennedy and Keith Nielson, eds., *Military Education: Past, Present and Future* (Westport: Praeger 2002), p. 158.

[26] Skelton Report, p. 4.

[27] Ibid., pp. 3-4. The AFSC was later renamed the Joint Forces Staff College.

[28] United States General Accounting Office, *Air Force: Status of Recommendations on Officers' Professional Military Education.* NSIAD-91-122BR (Washington, DC: GAO, National Security and International Affairs Division, March 1991), p. 17.

[29] Ibid., pp. 16-17.

[30] Ibid., p. 17.

[31] *Professional Military Education: Hearings before the Military Education Panel of the Committee on Armed Services, House of Representatives, One Hundred Second Congress: First Session: Hearings Held February 5, April 17, 24, September 18, November 1, 5, and December 16, 1991,* p. 144.

[32] **http://www.af.mil/information/bios/bio.asp?bioID=5437**

[33] Brigadier General Phillip J. Ford, Personal Testimony, 24 April 1991, *Hearings before the Military Education Panel*, p. 107.

[34] Larry Weaver's written comments to Tamir Libel, 18 August 2010.

[35] Brigadier General Phillip J. Ford, Prepared Statement, 24 April 1991, ibid.

[36] Mets, p. 58.

[37] John Andreas Olsen, *John Warden and the Renaissance of American Air Power* (Dulles: Potomac, 2007), p. 251.

[38] Stephen L. Butler, *Toward the Twenty-First Century: Air Command and Staff College Curriculum from Theory to Practice* (Research Report, Auburn

University, 1995), p. 3.

[39] Larry Weaver's written comments to Tamir Libel, 18 August 2010.

[40] Olsen, p. 251.

[41] Tamir Libel interview with John Warden at the "Air Power and Strategy: Challenges for the 21st Century" conference held at the Joint Services Command and Staff College, UK, on 12 and13 June 2008 (hereafter cited as "Tamir Libel Interview with John Warden").

[42] James S. Corum's written comments to Joel Hayward, 4 September 2010.

[43] Ibid.

[44] Richard Muller's written comments to Joel Hayward, 5 September 2010.

[45] John A. Warden III, *The Air Campaign: Planning for Combat* (Washington, D.C.: National Defense University Press, 1988).

[46] Tamir Libel Interview with John Warden.

[47] Stephen L. Butler, Toward the Twenty-First Century: Air Command and Staff College Curriculum from Theory to Practice (Auburn University, 1995), p. 3.

[48] Ibid., p. 21.

[49] Ibid., p. 3.

[50] Ibid.

[51] Tamir Libel Interview with John Warden.

[52] Olsen, p. 253.

[53] Richard Muller's written comments to Joel Hayward, 5 September 2010.

[54] Ibid.

[55] Ibid.

[56] James S. Corum's written comments to Joel Hayward, 5 September 2010.

[57] Ibid.

[58] Dennis M. Drew, "Educating Air Force Officers: Observations after 20 Years at Air University," *Airpower Journal*, Vol. 11, No. 2 (Summer 1997), pp. 37-44.

[59] Olsen, p 253.

[60] Larry Weaver's written comments to Tamir Libel, 18 August 2010.

[61] P. Mason Carpenter and George T. McClain, "Air Command and Staff College Air Campaign Course: The Air Corps Tactical School Reborn?" *Airpower Journal*, Vol. 7, No. 3 (Fall 1993), pp. 72-83.

[62] Larry Weaver's written comments to Tamir Libel, 18 August 2010.

[63] Olsen, p. 253.

[64] Ibid.

[65] Larry Weaver's written comments to Tamir Libel, 18 August 2010.

[66] Olsen, p. 253; Carpenter and McClain, endnote 13.

[67] Olsen, pp. 252-253.

[68] Phillip S. Meilinger, "Dog Days for the Air Force: What's Wrong and How It Can Be Fixed" (unpublished manuscript, 2005), p. 287.

[69] Ibid; Mets, p. 58.

[70] James S. Corum's written comments to Joel Hayward, 4 September 2010.

[71] Olsen, p. 255.

[72] Ibid.

[73] Ibid., pp. 254-255.

[74] Ibid., p. 256.

[75] Meilinger, "Dog Days," p. 287.

[76] Ibid.

[77] Tamir Libel Interview with John Warden.

[78] Meilinger, "Dog Days," p. 287.

[79] Richard Muller's written comments to Joel Hayward, 5 September 2010.

[80] James S. Corum's written comments to Joel Hayward, 4 September 2010.

[81] Olsen, p. 257.

[82] Ibid., p. 258.

[83] Ibid.

[84] Richard Muller's written comments to Joel Hayward, 5 September 2010.

[85] Ibid.

[86] Phillip S. Meilinger's written comments to Joel Hayward, 7 September 2010.
[87] Richard Muller's written comments to Joel Hayward, 5 September 2010.
[88] James S. Corum's written comments to Joel Hayward, 5 September 2010.
[89] Ibid.
[90] Phillip S. Meilinger's written comments to Joel Hayward, 7 September 2010.
[91] Olsen, pp. 260-262; Tamir Libel Interview with John Warden.
[92] James S. Corum's written comments to Joel Hayward, 4 September 2010.
[93] Richard Muller's written comments to Joel Hayward, 5 September 2010.
[94] Olsen, p. 261; Tamir Libel Interview with John Warden.
[95] James S. Corum's written comments to Joel Hayward, 4 September 2010.
[96] Richard Muller's written comments to Joel Hayward, 5 September 2010.
[97] Ibid.
[98] Ibid.
[99] James S. Corum's written comments to Joel Hayward, 4 September 2010.
[100] Tamir Libel Interview with John Warden.
[101] Olsen, p. 260.
[102] Ibid.
[103] Tamir Libel Interview with John Warden.
[104] Tamir Libel Interview with John Warden.
[105] Richard Muller's written comments to Joel Hayward, 10 September 2010.
[106] Olsen, p. 261.
[107] Ibid.
[108] Phillip S. Meilinger's written comments to Joel Hayward, 7 and 11 September 2010.
[109] In an email to Joel Hayward date 10 September, Maj. Gen. John Brooks confirmed the story but asked for his own comments on the matter not to be quoted. His request is respected.
[110] Phillip S. Meilinger's written comments to Joel Hayward, 7 September 2010.
[111] Olsen, p. 265.
[112] Ibid.
[113] Ibid.
[114] James S. Corum's written comments to Joel Hayward, 4 September 2010.
[115] Olsen, p. 264.
[116] Tamir Libel Interview with John Warden.
[117] Ibid.
[118] Olsen, p. 264.
[119] Phillip S. Meilinger's written comments to Joel Hayward, 10 September 2010.
[120] For the significant influence of the SAAS, now the SAASS (with Space added), see Tamir Libel and Joel Hayward, "Adding Brain to Brawn: The School of Advanced Air and Space Studies and its Impact on Air Power Thinking," *Air Power Review*, Vol. 13, No. 2 (Summer 2010), pp. 69-80. Available online from the website of the Royal Air Force Centre of Air Power Studies: **http://www.airpowerstudies.co.uk**
[121] Richard Muller's written comments to Joel Hayward, 5 September 2010.

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