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Air Force Culture and Cohesion

Building an Air and Space Force for the Twenty-First Century

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THE US AIR FORCE has a cohesion problem. Dr. Donald B. Rice, former secretary of the Air Force, complained that officers identified with their weapon systems, not with the Air Force or any concept of service mission or doctrine.[1] Carl Builder agrees. To Builder, the Air Force has no strong, unifying mission or vision, so loyalty has devolved to functions, technologies, and occupations.[2] Franklin Margiotta states that in his experience, he served in 30–40 different "air forces" that had in common only a single-colored uniform and a universal belief that each member and faction was serving the cause of national defense. He too sees technology as the organizational essence of the Air Force.[3] Frank Wood observes that the emphasis of today's Air Force on high technology makes it most susceptible to specialization and occupational attachments, particularly when those Air Force specialties have civilian air and space equivalents.[4] Indeed, our service has a cohesion problem, and it is firmly rooted in the culture, technical specialties, and organiza-

tional dynamics within the diverse, complex entity that is today's Air Force.

This article analyzes the roots and current manifestations of the Air Force's cohesion problem, defining and developing the problem as a basis for some broad suggestions as to how the service can begin to mold itself into a more cohesive force for the twenty-first century. It briefly summarizes how organizational culture underlies organizational cohesion; presents a traditional cultural interpretation of the Air Force; expands on the traditional view to outline a cultural overview of current Air Force fragmentation; and examines the applicability of cohesion-building activities for the present and future Air Force.

Culture

"Every organization has a culture, that is, a persistent, patterned way of thinking about the central tasks of and human relationships within an organization. Culture is to an organization what personality is to an individual. Like human culture generally, it is passed on from one generation to the next. It changes slowly if at all."[5] This statement captures the key points of organizational culture—a patterned way of thinking focused on the organization's central tasks (operations) and relationships (administration), passed on by generations and slow to change.

Any organization's patterned way of thinking reflects what is variously called its *essence* or the beliefs of the *corps* around its *core*. The central career professionals, those people most closely associated with the organization's core operation, define the mission and decide on the capabilities needed to carry it out.[6] The elite group at the center of the organization's mission—the elite profession (or the corps at the core)—stakes out the boundaries of the organization (its roles and missions). It also controls the operations of the organization (with spillover influence on the policies that direct that operation), as well as the personnel system for that core operation and its supporting operations, and establishes a career system to institutionalize that control. Within even the most complex organization, a single professional elite possesses knowledge, skills, and orientations identical to the mission and activity of the organization. This is the corps elite—the elite profession within the organization—and it defines the essence, sets the culture, and determines the vision that exemplifies the organization.[7]

In large organizations, or those with complex missions, secondary elites emerge around their particular sub-mission or mission segment. The organization can exhibit tensions and conflict across these elites as each espouses its own organizational vision based on its particular experience and focus. Thus, a rank ordering often develops among the core elites, with resultant intraorganizational mission competition, making analysis of the relationships among these various elites key to a full understanding of the organization.[8]

If the culture is shared and endorsed across the various subgroups that comprise the organization, then a sense of *mission* exists, and the organization is relatively cohesive, both internally and in its approach to the outside world. Able leaders attempt to shape the culture toward that cohesive sense of mission, but this often becomes a very difficult bridge-building exercise.[9] A RAND study agrees, stating that a "collective, shared sense of a distinct identity and purpose appears to be a hallmark of the most successful institutions." The RAND study calls this phenomenon *organizational vision* and further states that such a shared vision lends the organization relevance, clarity, realism, inspiration, and a positive internal and external public image.[10]

The organizational cultures of the US military services are particularly strong because they employ a career system based on the "closed career principle." These organizations recruit personnel upon completion of basic education, and those personnel spend their career almost exclusively in their particular organization. They are educated, trained, and advanced by the organization,

based on its internal rules and priorities; almost no lateral entry into the organization exists, except at the entry level—career personnel enjoy protection from outside competition.[11] The services recruit and indoctrinate new members into their core mission and its requirements. They provide their own professional education programs to prepare career officers to move up the chain of responsibility for that mission. Further, they promote these career personnel into the decision- and policy-making levels within their career elite with only limited external veto and no real external competition. The service culture is institutionalized by the organization and internalized by its members.

Organizational culture has significant impact on organizational behavior. To the extent that such behavior spurs excellence in mission accomplishment through competition, it is seen as positive. However, sometimes it leads to dysfunctional results, and no easy or immediate solution exists. Organizational culture changes slowly and primarily in response to internal pressures to adapt to a changed operational environment, not in response to external direction. True organizational change requires a cultural transformation—not simply accommodation and incremental modification but changed organizational output in terms of structure, professional incentives, and changed professional behaviors. The reorganization option, implying organizational (cultural) change, consists of several steps: recognition of pressures due to changes in the organization's external environment, perception that existing perfor-mance is inadequate, formulation of a new organizational strategy (planned outputs, goals, and objectives) to meet the changed environment, modification of the organization's structure to accommodate new tasks and relationships, transformation of the organization's culture to meet the realigned elite professions and their relative priorities, and, finally, changed output in terms of organizational performance and product as a result of the new strategy, structure, and culture.[12]

Alternatively, one can view the "problem" of completing change and building cohesion within the system of subcultures that are today's military service—changing organizational culture—as a function of creating shared values and legitimacy leading to a common "theory of victory" (or vision), aligning new or changed tasks with "critical" tasks identified and ranked, realigning the distribution of power within the organization reflecting the new hierarchy of missions, and creating new or changing old career paths to groom organizational members for future leadership positions at all levels.[13] So the existing organizational elite struggles hard to protect its turf, budget, mission, and self-identity against emerging challengers for as long as it can. Transitions are painful to the organization, and this is a time of transition for the US military.

Air Force Culture

Traditional Air Force essence evolved around strategic bombing, particularly the aerial delivery of nuclear bombs against the Soviet Union. Internally, the primary contender for influence was the group advocating tactical airpower—from close air support (CAS) to the Army to the delivery of tactical nuclear weapons on the battlefield. Another challenge to primacy within the service came from advocates of missile borne nuclear weapons in lieu of the manned bomber. The strategic corps proved powerful enough to prevent the emergence of another power center from the airlift community. Even after the success of the Berlin airlift, the airlift mission remained secondary—removed from the core of nuclear bombing.[14]

The challenge of the missile community to the domination of bomber pilots forced the Air Force to adapt to external demands and incorporate missile technology, even to advocate missile development and procurement. However, the bomber elite never dropped their demand for at least coequal attention and money for bombers, and the expanded nuclear mission—bomber- or missile-

delivered—remained at the core of Air Force culture during much of the cold war.[15]

Air Force promotion rates to the rank of colonel from 1954 through 1971 reflect the assertion that senior leaders define organizational culture and that the organization rewards and promotes core elites at a higher rate than peripheral officers. But the Air Force core elite was changing. First, the promotion potential of officers assigned to the core strategic mission—including both bomber pilots and missileers—declined during this period. From a high in 1954–55 of promotion rates three times that of the rest of the Air Force, Strategic Air Command (SAC) officers steadily declined to promotion rates below the Air Force average by 1966. This trend continued through 1971. Observers also have traced the "below the zone," accelerated promotion rates for SAC officers from 1962 through 1971. For those officers identified for early, "fast track" promotion to colonel, SAC remained above the Air Force average in 1962 and 1963 but fell below the average for all but one of the subsequent years of the study. For all flyers—strategic, tactical, and transport—within the Air Force, however, promotion rates to colonel remained above the Air Force average for all but one year from 1956 to 1971. The core of the Air Force might be turning away from the strategic mission from 1966 on, but flying airplanes remained the focus of the Air Force.[16] From the 1960s on, the Air Force adapted its culture to accept a primary role for the aerial delivery of tactical nuclear and nonnuclear weapons, but strategic-bombing pilots remained at the top of the Air Force until the early 1980s, when for the first time a tactical pilot became Air Force chief of staff.

Builder describes this shift from strategic elements at the center of the Air Force's core to tactical dominance in largely negative terms, noting that the service has lost its guiding vision (strategic airpower theory) and thus its cultural cohesion. According to this view, the cohesive core around decisive, strategic airpower through World War II gave way to nuclear deterrence shortly after the founding of the independent Air Force. This wedding of the Air Force to nuclear deterrence gave entry to the missile and space community, which accelerated the shift to a focus on technologies over missions. The lack of a strategic role in Korea and Vietnam gave rise to the tactical subculture as well, splitting the Air Force core and leaving only weapon systems as a focal point.[17] James Mowbray attributes this shift to the replacement of aerospace power at the heart of Air Force doctrine with less defined "national objectives," thus leading to a devolution to sub-mission identities around these diverse objectives.[18]

By the late 1980s, then, the primary Air Force internal divisions reflected a technological bent, creating splits between pilots and all other airmen (as space began to claim a piece of the core) and between the types of systems the pilots flew: between fighter and bomber pilots; transport pilots and "combat" flyers; and even among air-to-air, deep-interdiction, and CAS fighter pilots. The Air Force essence began to center on the technology of the flying machine, even to the extent that Builder could describe the change in religious terms:

> The Air Force could be said to worship at the altar of technology. The airplane was the instrument that gave birth to independent air forces; and the airplane has, from its inception, been an expression of the miracles of technology. . . . There is a circle of faith here: If the Air Force fosters technology, then that inexhaustible fountain of technology will ensure an open-ended future for flight (in airplanes and spacecraft); and that, in turn, will ensure the future of the Air Force.[19]

Builder offers a grain of truth here. For example, cannon and shell—instruments of war—abound around the periphery of the West Point plain, but the central area—the one closest to the cadets who will lead the future Army—is reserved for statues of military leaders of note: Washington, MacArthur, Eisenhower, and even Patton. At the Air Force Academy, busts of air leaders, from the Wright brothers through Hap Arnold, surround the central area, but upon that field one also finds static displays of the F-4 and F-105 from Vietnam and the F-15 and F-16 from

Operation Desert Storm. The technologies of flight take center stage.

Given that "worship" of technology, the Air Force core measures itself in terms of aerospace performance and technological quality—the clear emphasis is on quality over quantity, and the self-identity is with platforms flown or launched. Given its future orientation and attachment to technology, the Air Force still remembers its struggle with the Army for independence, and it is sensitive to challenges to that independence or to its attachment to the ground-combat mission. It continues to assert its autonomy as a service by emphasizing the strategic dimensions of aerial combat over ground-support roles.[20] The Air Force is "the keeper and wielder of the *decisive instruments of war*—the *technological marvels of flight* that have been adapted to war" (emphasis added).[21]

The Air Force was best positioned of all the services for Desert Storm but not necessarily for the end of the cold war. The traditional core mission of the Air Force had been strategic deterrence of the Soviet Union. That mission continued after the end of the cold war since Russia and three other republics still had strategic nuclear weapons, but it dwindled as Russian weapons drew down toward Strategic Arms Reduction Talks (START) II limits. Foreseeing this loss of mission, the Air Force issued a new vision statement—Global

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Reach, Global Power—that promoted conventional, long-range power projection and precision bombing against regional threats.[22]

This vision reflected a continuation of changes that had been occurring within the Air Force since Vietnam. Advances in conventional technology, precision, and lethality had accompanied the takeover of Air Force leadership by the "fighter mafia." Tactical pilots had supplanted bomber pilots, and Global Reach, Global Power gave voice to their vision of how airpower should (would) be employed in the new world order. This was a significant shift in the Air Force elite, but it happened gradually and deliberately, thus limiting its major disruptive effects within the service.[23] Today, the transition is complete. As of June 1997, nine of the 11 active Air Force four-star generals were fighter pilots, and the remaining two were bomber pilots.[24] By September 1997, one of the bomber pilots had retired and was replaced by yet another fighter pilot. (Note that all of the generals were pilots.)

Whatever its purpose and genesis, Global Reach, Global Power gave voice to exactly the rapid, lethal airpower that the Air Force employed in the Gulf War. The precise, decisive airpower employed in the Gulf gave the Air Force the upper hand over the other services in the force-cutback debate that followed Desert Storm. The Air Force was developing a clear vision of its future and demonstrating that it was ready to carry out that vision. While the other services struggled to define themselves after the Gulf War, the Air Force pushed for its faster, higher, stealthier future.[25] That push emphasized technology and rapid force projection, as well as expansions in the roles that space and information dominance would play in future conflicts.[26]

The Air Force may have seen its traditional strategic core mission reduced, and it may have seen its core elite shift from the bomber mafia to the fighter mafia with its increasing shift from a strategic to an operational focus, but it maintains its attachment to the future technologies of air and space combat—the decisive instruments of future war—now codified in *Global Engagement*.[27] As this vision matures—and if it can withstand the push toward a narrower, surface-warfare orientation from the Army and Marine Corps, as embodied in the *Joint Vision 2010* pro-cess[28]—the transition to a high-end, operational (theater), decisive airpower and space power vision may become complete, allowing the Air Force culture to complete the transition toward its preferred role in the twenty-first century.[29]

The Air Force in the Late 1990s

Studies of the Air Force from the 1970s and into the 1980s indicate that we should expect it to represent a spectrum of attachments to both the institution and to its many occupations, in many cases leaning fairly heavily toward the occupations. The Air Force should be a confederation of technical specialties—this fractionalization a function of the technical nature of the service, of its resulting close and continuous contact with civilian contractors and specialists from equivalent occupations, and of its bureaucratic management practices dating from the 1970s.[30] Distinctive uniforms, flight jackets, badges, and pay bonuses have helped retain critically skilled officers, but they have also helped to deepen individual identification with subcultures and splits between those various factions at the higher (service) level. The occupational orientation resulting from the emphasis on technology and skill is deepened by the pursuit of skill-related higher education so characteristic of the Air Force officer corps.[31] This set of occupational factors places the Air Force apart from the ground-combat services, which are more institutional in their orientation. The Marine Corps, for example, is the most institutional of the services.[32] The lack of direct civilian equivalents for many of the Marines' core skills becomes a factor here.

An initial profile of Air Force officers points to a continuation and perhaps even a deepening of some of the factors that contribute to the service's occupational orientation and fragmentation. Education remains a primary indicator of continuing Air Force attachment

to technology and to a continuing occupational orientation. For example, 96 percent of all Air Force generals have earned at least one graduate degree.[33] These data remind us that the Air Force is by far the most educated of the services and that Air Force line officers, over half of whom hold graduate degrees, are clearly a well-educated group. By comparison, in 1997 the Navy was reported to have only 77 serving line officers with doctoral degrees, compared to the smaller Air Force's nine hundred.[34]

In 1996 Air University conducted two surveys of almost two thousand of its staff members, faculty, and students at Maxwell Air Force Base (AFB), Alabama, to support the development of a curriculum for the proposed Air and Space Basic Course (ASBC). The results of those surveys indicated that the Air Force officer corps recognizes that its members display careerist attitudes and identify primarily with their technical specialties.[35] In summarizing the results of the Airman's Basic Course Curriculum Structure Survey and the Shared Institutional Values Survey, one analyst states that "the responses indicate that officers value unit cohesion, identify with technical specialties and do not persuasively articulate airpower doctrine."[36] This observation seems to indicate that in the absence of a shared vision or sense of mission, Air Force officers turn to their occupations and the immediate units built around those occupations for their primary identification. This tendency is symptomatic of a fractionated confederation of subcultures rather than a cohesive military service.

Beyond these "snapshot" descriptive data and the Air University survey results, the author surveyed 1,030 Air Force officers, representative of the service's culture and cohesion, to find more detailed answers to questions about what the Air Force looks like today—how it is oriented, where its main fracture lines lie, and what the intensity of its fault lines might be across specialties and ranks.[37] Specifically, the survey addressed institutional/occupational (I/O) orientation, mission/priority/allegiance rankings, and attitudes toward technology and space to determine the sources and depths of differences on these factors across the Air Force. Only students entering professional military education (PME) courses at Maxwell in the late summer of 1997 participated in the survey. Members of the three schools surveyed—captains at Squadron Officer School (SOS), majors at Air Command and Staff College (ACSC), and lieutenant colonels at Air War College (AWC)—form a representative cross section of the middle ranks, specialties, ratings, sources of commission, levels of PME completion, genders, and joint experience found across the entire Air Force.

Students participated in the survey at the very beginning of their PME studies, when they had just arrived from Air Force field assignments and before any leveling of attitudes could take place as a result of cross-specialty contacts within these programs. The survey targeted active duty line officers—members of the culture-setting corps-elite segments and primary supporting segments, which best represent the core culture and primary subcultures of the service. Further, SOS captures a broad cross section of Air Force junior officers, but ACSC and AWC remain very selective, offering only the "top" selectees for midcareer and senior ranks the opportunity to attend. This situation actually produces a sample that best represents the culture and its adherents, according to the closed-career model.

Almost 90 percent of current Air Force generals completed intermediate service school (ACSC or another service's equivalent), and 98 percent completed senior service school (AWC or another service's equivalent or a national program).[38] Other studies indicate that completion of a service's professional education programs is highly correlated with selection for Air Force command assignments (in December 1990, 97 percent of Air Force wing commanders were graduates of intermediate service schools)[39] and for senior-level promotion (from 1976 to 1983, 93 percent of Air Force officers selected for promotion to colonel were graduates of senior service schools).[40] Further, the services' professional education programs should deepen their stu-

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dents' attachment to service values and culture.

One would expect the survey to show that in 1997 the Air Force was a fractionated body lacking a common vision, having thus devolved into functional, technical, and occupational communities with little integration among them. Moreover, the Air Force should be largely occupational in its orientation, with the high levels of mission technology combining with high levels of officer education to further this occupational orientation. Finally, the Air Force should be a complex mix of communities with no integrating vision and little glue to hold them together as a cohesive entity.

But the findings of the survey, although consistent with many of those expectations, are not quite as bad as one might think, based on the results of previous studies. Certainly, today's Air Force is a highly technical force with a complex mix of specialties across a wide range of core and secondary missions. Certainly, today's Air Force is much more highly educated and involved in ongoing educational efforts than the other services. And just as certainly, differences and fracture lines exist across the large and complex Air Force, some of them pronounced. But the survey also indicates the presence of a common foundation underlying the gaps (which may not be as wide as some people may think), upon which the service could build a more cohesive air and space force for the future.

As regards I/O orientation—a continuum of attitudes, not an absolute choice between institution and occupation—the survey revealed significant differences based on rank, occupation, rating, PME completion, and joint experience. Higher rank, completion of more PME, and joint experience were characteristic of officers who were relatively more institutional in their orientations. Also displaying more institutional attitudes were support officers and members of the scientific and engineering community, as well as nonrated officers. Most noteworthy is the fact that in only one subcategory and for a single question did the mean response move over the centerline of the continuum and into the occupational side.

Although earlier reports stated that this or that group remained more or less occupational in its orientation, this survey reports relative degrees of institutional orientation. That in itself should provide a bit more optimism as to the possibility of at least bridging the I/O gaps within the Air Force officer corps. Only a question on non-mission-related duties, the omnipresent military "Mickey

Mouse," brought a series of mean responses over three on a five-point scale. And only the most junior operational officers surveyed (captains in rated, missile, and space specialties) registered a mean score over the 2.50 midpoint (a 2.51) on the pool of "occupational" questions. Thus, the Air Force retains an "institutional" foundation.

On the relative ranking of alternative missions, priorities, and allegiances, the survey found higher degrees of agreement across the Air Force. Mission choices revealed few differences, and only senior scientific and engineering officers elevated "team" efforts over operational air combat as their top mission of choice. The instrument noted no differences in rankings for allegiances. Only the matter of selecting priorities showed some differences, with several subgroups ranking operational mission over people and more senior officers generally reversing those two priorities. In the end, the technology-oriented officer corps put technology last in its rankings, behind operational-mission and air-combat priorities in every case.

Finally, the responses regarding technology and space revealed some significant differences, but one can bridge most of the gaps here. More senior officers, operators, rated officers, and officers with higher levels of PME looked more positively on the role technology plays in the Air Force. But the key differences concerned space. Senior officers, support and scientific/engineering officers, nonrated officers, officers with more PME and a joint assignment, and female officers all had high regard for the role of space. Most noteworthy, again, was the response of rated officers, which indicated a lower regard for space, thereby creating a distinct gap between them and the rest of the Air Force on this issue. Further, the range and degree of difference within all of the subcategories of focus proved greatest on this issue of the air and space force. This prominent fracture line is significant to the future of space within the Air Force, as opposed to space as a separate force. Although *Global Engagement* states that "we are now transitioning from an *air* force into an *air and space* force on an evolutionary path to a *space and air* force" (emphasis in original),[41] Air Force officers are, overall and particularly within the rated community, not yet ready to make that transition. The space force may find itself in the same position in which the Air Corps found itself as a part of the US Army. That is, independence becomes the only viable alternative unless the Air Force accepts and supports a key space role within the existing force.

So the survey found fractionalization on the basis of rank, occupation, and rating but found lesser degrees of difference for level of PME completion, joint experience, and for rank within the occupational categories of operations and support officers. It revealed few differences on the basis of gender or source of commission and few within the scientific and engineering community. For the most part, the differences were perhaps not as striking as were some of the areas of similarity. Operational and occupational focus will lead to some degree of difference in reaction to various areas surrounding Air Force culture and mission, but the gaps appear bridgeable. The service's line-officer corps appears to provide a basic infrastructure upon which the Air Force can build cohesion.

Building a Cohesive Force

Building or fostering cohesion within a complex organization is a difficult task, but it is one that has been and can be successfully accomplished. We must remember that culture change and cohesion are products of senior leadership acting in concert with leaders reaching down into the organization. The process is internal, active, and top-down. It must begin with the clear definition of a single, unifying mission or vision statement, one that is attuned to the task orientation of the organization and one that all key, elite segments of the organization can embrace. One must then actively disseminate that vision across the diverse subcultures and fractionated specialties before it can begin to take effect.

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Completing an organizational transformation of the Air Force requires completing its cultural transformation, remaking the service into its twenty-first-century vision.[42] First, this process requires a careful alignment of the Air Force conception of its task environment with the perception of that environment held by general, political elements (the national security bureaucracy, especially the Department of Defense and the Joint Chiefs of Staff). This is the clear vision required from senior leadership at the top of the corps elite. The Air Force's *Global Engagement* vision and its core competencies, especially insofar as they are consistent with the *Joint Vision 2010* process (*Joint Vision 2010*, the *Concept for Future Joint Operations*, and the *Joint Vision Implementation Master Plan* for the moment), provide a solid first step to building this mission/vision identity.

Second, one must realign Air Force strategy and structure to achieve the critical operational tasks, roles, missions, and functions at the heart of the vision. This requires unified, active leadership reaching down to reshape the service through clear and cohesive guidance. Air Force Doctrine Document (AFDD) 1, *Air Force Basic Doctrine;* AFDD 2, *Air and Space Power Organization and Employment* (forthcoming); and the developing air-dominant strategy all are key parts of this strategic effort. Analysis of the survey for this article indicates that the role of space within the Air Force must be a central feature of this revised strategy and structure in order to retain space as a force within the organization. Otherwise, space may be forced to seek an independent identity in order to survive and prosper as a distinct mission element.

Third, the changed culture, realigned and reinforced elites, and revised priorities must be socialized across the organization. The key to this process lies in creating a cohesive and encompassing team focus around which diverse subcultures and specialties can (and want to) coalesce. Rewards and incentives, promotions, and training must all be brought into alignment with this team concept to provide the "glue" it needs to hold the reshaped service together until it fuses into a common whole. The new culture and team must be socialized from the beginning of one's entry into the closed-career system, either via pre-

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commissioning education, initial specialty training, or a common Air Force orientation. This culture and vision must then be reinforced across one's career, not just in formal PME programs but also via active mentoring by leadership at every level.

The ASBC and the PME process under study at Air University may be steps in this direction, and the joint-education, cradle-to-grave career progression suggested in Chairman of the Joint Chiefs of Staff Instruction (CJCSI) 1800.01, *Officer Professional Military Education Policy*, may prove a viable template for the Air Force program. However, the informal dimension will be key to the broadest success of this socialization effort, and it rests in Air Force leaders' active mentoring of their juniors—a difficult process to institutionalize and standardize. ASBC curriculum-support surveys conducted by Air University in 1996 indicate that the focus for the socialization of junior officers should address core values, ethics, teamwork, and Air Force missions. One should place secondary emphasis on Air Force history and doctrine—or air-mindedness.[43] The Air Force must note that shared values are certainly a foundation upon which to begin to build cohesion but that one must also define and promulgate a clear and unifying vision—a sense of shared mission in which each member can see a direct and important stake—before a unified service can arise. The final result must take the form of changed output in terms of the performance and cohesion of the Air Force team within and across the twenty-first-century battle space, and simple or singular attempts at solution may not be enough.

As the Air Force completes this transition, it must also remember not to use the perceived coherence of the other US military services as the basis for a direct "fix" of unique Air Force issues and problems. The Air Force is simply not the Army, Marine Corps, or Navy, none of whose programs will automatically transfer unchanged to the Air Force. One must analyze, evaluate, and adapt each one for Air Force applications.

Earlier research points to the differences among service cultures and cohesion.[44] The Army is the most closely integrated of the larger services, a fact one may attribute to interbranch mobility across careers, with many officers serving one or more tours in different branches of the service. Multibranch bases also contribute to cross-branch understanding and communication—and ultimately to cohesion. In fact, the Army operates as an interdependent, combined-arms team, with each specialty area interacting with and depending directly on others for support. The operational Army is a team. It lives as that team on its bases, deploys to the field to live even more closely together in that team, and lives or dies in combat, based on direct linkages and mutual support among the members of that team. The experience of the National Training Center in the 1990s reinforces this team concept. The Army is built for cohesion.

That same research does not address the Marine Corps, but this service has all of the

cohesive elements found with the Army, plus the additional advantages of a narrow mission set and a small size. Marines are organized into an organic whole—the Marine Air-Ground Task Force—and they live in that integrated organization, deploy at sea for extended periods in that structure, and face both their operational and political environments as a singular team. The corps is focused and challenged as a unit and sees itself in that light. Marines embody a cohesive warrior entity. They have much in common with the "model" cohesive unit—the US Forest Service—which is small, remotely stationed, field oriented, and institutionally cohesive.[45]

The Navy is the second most cohesive of the three largest services. Navy skills are more distinct and diverse than those of the Army, but the naval task force is also an interdependent operational organization. This operational interdependence provides a binding force across weapon systems and specialties, and this cohesion is reinforced through multispecialty interaction in the ports and wardrooms of the fleet. As with the Army, operational deployments and combat interdependencies mold the force into a fairly cohesive whole.

The Air Force is the least cohesive of the services. One may attribute its fragmentation to the specialized nature of its technologies, the specialization of its wing structure, and the relative isolation of one specialized unit from the others. The basis of the problem is Air Force technologies, which are diverse and specialized; both efficiencies and effectiveness come from organizing around those unique technical assets. The operational Air Force mixes assets within operations, but units live apart and work in isolation until they join up en route to the operational target. Further, direct-support technologies that are integrated into the actual operation may be continents away at the time they are "interoperating" with a force. The Air Force mission also mixes several operational foci, from surface-warfare support through airlift (both theater and global) to strategic operations and into space. There is much less "glue," less single-mission simplicity, and less combined physical contact than one finds in the other services. The Air Force cannot be the Marines, and Marine answers may not even begin to address Air Force questions.

Perhaps the Air Force should look outside the military into other complex government agencies and civilian organizations for models. High-technology enterprises in the nonmilitary sector might offer relevant inputs for Air Force cohesion issues. One might certainly consider the National Aeronautics and Space Administration (NASA), which can offer at least as much relevant experience as the other services. NASA also faced a period of transition leading up to the *Challenger* disaster, and it is now facing an institutional renewal at least as fundamental as that facing the Air Force. Observers outline issues of culture and cohesion in the confederation of cultures known as NASA, finding that the integrative, cohesive matrix culture that characterized the Apollo era gave way to bureaucratic entropy and disorder, leading up to *Challenge*r. The political environment decreased its support for NASA, bureaucratic pressures became paramount, and "conservers" pursuing a survival mentality replaced "innovators" at the core of the organization.[46] Today, NASA is attempting to reinvigorate its high-tech, multiple-subculture matrix team around new missions and goals, and the Air Force should take note of those efforts.

Regardless of the models examined, the Air Force must find its own answers within its own set of cultures and pressures: it must define, build, and sustain its own team within and against its own mission and vision. The officer corps is the key to that effort. Military officers lead the various units at all levels, and through that leadership they set the example and climate of the primary groups with which Air Force members identify. Those same officers provide the linking mechanism, the glue, that binds those individual units into a force, both across the functions and up and down the Air Force.[47] The officers set, disseminate, and perpetuate the culture, and they must all become involved in reinventing the Air Force team. The Air Force officer corps must share essential values, define the service core mis-

sion(s) within the operational and political environments, create a unifying vision, and undertake strategic planning and action to promulgate that vision.

A start should come from clearly defining an Air Force team, one that includes both decisive and supportive airpower and space power functions within the operational context of the twenty-first-century battle space; we must build on *Global Engagement* to define that inclusive Air Force team of the future. But such a team concept must be real, and it must be backed tangibly through policy and incentives (promotion and status) from the top down. The team and its vision must be disseminated at all levels, not just through formal means but through active, continuous involvement of all commanders. It must be a formal/informal cradle-to-grave continuum of Air Force *corps* concepts, not just *core* concepts. That team must be built, reinforced, and employed—as a team, not just its parts—and the Air Force incentive system of recognition and advancement must be aligned with that team concept. High-tech, complex matrix teams can be productive, loyal, unified, and effective, and the Air Force can and should expect or accept no less.

True, the Air Force has a cohesion problem, but it also has a common infrastructure upon which it can begin building its future, inclusive, more cohesive team. It needs to define that team; consolidate its missions around that team; and actively promulgate, reward, and support its vision into the twenty-first-century air and space future. The effort must be extensive and pervasive, incorporating formal education and training but focusing also on day-to-day, unit-level efforts to live the team concept. It must come from the top, but it must reach down to and through commanders at all levels in a continuing, cradle-to-grave effort across each airman's career. The fracture lines are real, and the technological and mission-diversity pressures tend to pull the Air Force apart. For those reasons, it must put real, focused effort into pulling together—not as a single entity but as a team coming into harmony around shared missions and common goals. A team effort is possible, even if a single, unified entity is not, and we must make the effort to bring that team onto the field. □

Notes

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The man who does not read good books has no advantage over the man who can't read.

—Mark Twain