

➤ Appendix E: Cohesion

This Appendix is presented by Dr. Jonathan Shay, a subject matter expert, who was a study performer on this project.

Cohesion Essay

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I. What is Cohesion?

Words are the furniture of our thought and the currency of discussion and debate. This is not an academic exercise. I know I am addressing practitioners who must see the practical wisdom of this writing or they will cast it aside.

A. Cohesion and *esprit*

Marine folk culture, especially rising out of the island campaigns in the Pacific, tells and retells stories of random remnants of devastated units welding themselves into formidable teams. “We were all Marines. We looked at each other in the eye, cursed each other out the same way – everybody knew what to do.”

The Marine Corps is unique among American forces in its vision of the need to regenerate its cultural capital in each and every recruit. Marine Boot Camp is famous for this. This large investment of effort and scarce resources creates the quality of instant, unconditional mutual recognition that, in a crisis, make complete strangers willing to die for each other.

This powerful phenomenon – instant mutual recognition and self-sacrificial loyalty among men *who have never previously met* – is known in the literature as *esprit de corps*, with the word “cohesion” being reserved for the qualities of bonding, mutual support, and common will of the face-to-face unit, of the “primary group.”¹ *Esprit* and cohesion are related, but separate phenomena, and can exist independently of one another (and in some bad situations, especially leadership betrayal) can turn *against* each other. One of the arts of military training and leadership is to get cohesion and as *esprit de corps* to feed and reinforce each other.

The classic embodiment of *esprit de corps* is “The Regiment” (capitalization intended) in the British Army. These formations always were too large for everyone to personally know everyone else, except after a long time in the regiment. But they generated immense attachment, loyalty, instant mutual recognition and trust, and lifelong acknowledgement of this identity. The Marine Corps is unique for the American setting in its success in creating this same phenomenon. Ask any active Marine of any rank to introduce himself, and reflexively the answer will be “I am a Marine.” In other U.S. services, the answer is almost always in terms of a community that has crystallized around a platform or weapon system: “I’m a submariner” “I’m a P-3 driver” “I’m armored” “I’m an artilleryman” “I’m a hornet driver” “I’m airborne”. Whether they fly, float, drive, or walk, Marines answer, “I’m a Marine.”

This rightly prized accomplishment is widely believed to be all the cohesion that’s

¹ F.J. Manning, “Morale, Cohesion, and Esprit de Corps,” In *Handbook of Military Psychology*, edited A.D. Mangelsdorff, New York, NY: John Wiley & Sons, 1991, Pp 453-470. Rick Manning was a major player in the Walter Reed Army Institute of Research field evaluations studies of the Army’s COHORT, Unit Manning, and Positive Leadership initiatives.

needed. One active senior Marine leader, whom I esteem greatly, has repeatedly told a story of a seaport brawl in which two active Marines came to the aid of another who was being beaten up. A third man, not in uniform, joined the fray in defense of the beat-up Marine, and the third man was later discovered to be someone who had washed out of Boot Camp. Neither the two original responders nor the civilian “volunteer” personally knew the Marine being beaten, but they knew where their loyalty lay. “Now that’s cohesion!” exclaimed this senior leader at the end of the story.

Another revered Marine infantry officer, this one retired, but who has continued powerfully to contribute to the intellectual capital of the Marine Corps – a man whose unshakeable integrity I admire without qualification – asked me if I was still “peddling that cohesion snake oil.” He then told me a story from the World War II (WWII) Pacific island campaigns of an effective and *ad hoc* unit assembled from the remnants of other brutally attrited units.

Both these esteemed leaders are pointing to *esprit de corps*. I hope to persuade them and the reader that we will have a significantly better Marine Corps – and enhanced *esprit de corps* – if the Marine Corps attends positively to the policies and practices governing small unit stability.

B. Cohesion and Love

When you talk to active American military officers and Non-Commissioned Officers (NCOs) about love – they squirm. They are embarrassed. On the one hand, their organizational culture highly values rationality, which has been packaged to them as emotion-free² – and love is clearly emotional. On the other hand, they instantly start worrying about sex, which in modern forces is *always* prohibited within a unit, whether heterosexual or homosexual. In present-day America, the ideas of love and sex have gotten mashed together. The two notions of rationality-*contra*-emotion and love-is-sex give a one-two punch to clear thinking and discussion of mutual love among military professionals. *Of all groups in America today, military people have the greatest right to, and will benefit most, if they reclaim the word “love” as a part of what they are and what they do.*

Bluntly put: The result of creating well-trained, well-led, cohesive units is – love. These Marines are “tight.” They regard each other – as explained in Aristotle’s discussion of *philia*, love – as “another myself.”³ While members of such a tight unit usually do *like* each other, this is not essential, just as family members may love their brothers and sisters, but not especially like them. To quote an Army private interviewed by researchers at Walter Reed Army Institute of Research (WRAIR) in the second year of

² For a detailed refutation of the belief that emotion and reason are in all ways antithetical, see A.R. Damasio, *Descartes’ Error: Emotion, Reason, and the Human Brain*. New York, NY: Grosset / Putnam, 1994.

³ Or “another himself.” Most famously quoted from *Nicomachean Ethics* IX.9.1170b6, Irwin translation, Cambridge, MA: Hackett, 1985. Aristotle’s account of friendship is rich, complex, and laced with surprises. See particularly Chapter 4 of A.W. Price, *Love and Friendship in Plato and Aristotle*, Oxford: Clarendon Paperback, 1990.

the 7th Infantry Division (Light) Cohesion, Operational Readiness and Training (COHORT) program, “I don’t like Smedley, and Smedley doesn’t like me. But we know what each other can do, and we’d rather go to war together than with some hotshot we don’t know.”⁴

The importance of mutual love in military units is no sentimental claptrap – it goes to the heart of the indispensable military virtue, courage. I shall explain this below.

After the idea that love always leads to sex, another misleading belief about love is that it “just happens,” as some inexplicable miracle. In the military context this is plain wrong: we *know* how to create units with this kind of tight bond. I shall examine this below in the many sections on training.

C. Cohesion, Mutual Aid and Obligation, and Self-Sacrifice

Willingness to fight for each other – which means readiness to risk death or hideous wounds – is a *felt* obligation in tight units. This obligation resides in the gut, not in the head, as illustrated in the following sketch by Carl Bernard, a Korean War veteran of Task Force Smith:

My definition of fighting is: “crawling on your belly like a reptile, close enough to throw a grenade at some hostile wretch with a working machine gun.” This narrow definition includes one of you throwing the grenade and the other standing up and shooting the gunner when he swings his tube to kill the one who threw it. Remember also that machine gunners come with crews and the reason they are still alive is they know and are prepared for your form of attack. And the price for being outfought is pretty high, and very conclusive! Both actions are the ultimate unnatural acts that neither you nor the grenade pitcher may survive. There are no other solutions however, and do not believe that Rambo is coming up to do it for you. *You and your team are your only sure resources.*⁵

The essence of cohesion is mutual social recognition and attachment in a time of fear. As von Clausewitz pointed out almost two centuries ago, *fear* is the main viscous medium that the Marine must struggle through – in the above example, to stand up and shoot the machine gunner. Unit pride and the urge to protect comrades *directly reduce psychological and physiological fear*, which frees the Marine’s cognitive and motivational resources to perform military tasks. Social recognition is the acknowledgement of belonging and respect. “We know you. You’re one of us.”

Concrete mutual aid, such as help carrying heavy pieces of equipment are routine and

⁴ F.R. Kirkland et al. “Unit Manning System Field Evaluation: Technical Report No. 5” Washington, D.C.: Walter Reed Army Institute of Research Division of Neuropsychiatry Department of Military Psychiatry, 1987, Pp 14f.

⁵ Personal communication, e-mail, 2/4/99, by permission, Colonel Carl Bernard, USA, ret. Emphasis added.

predictable features of cohesive units, but do not appear to be predictable on the basis of *esprit de corps*. The difference probably lies in the habits of mutual aid that arise among people who see themselves as part of each other's future – whether rationally calculated as expected reciprocity, as formally modeled in Game Theory,⁶ or in the emotional reciprocity captured in Aristotle's phrase that a *philos* is "another myself."

D. Why Aren't Uniform Training and *esprit de corps* Enough?

Esprit de corps is just as much a visceral sense of mutual obligation and willingness to risk for each other as face-to-face cohesion. Carl Bernard's sketch pictures a specific tactical technique for attacking an enemy's prepared position. One of the most pervasive and tenacious cultural beliefs among American military officers is the idea of uniform training to produce interchangeable, replaceable fighters, who "know what to do." In the Marine version of this belief, the remnants of destroyed units on the beach at Peleliu had all learned the Marine way of attacking a Japanese machine gun, and their *esprit de corps* gave them the heart to do it. End of story.

In an Army version of this belief [voiced to me at a Research and Development Corporation (RAND) personnel seminar] an Army colonel said, "I had a tank company in Germany, and you get a new guy, you want to put him in a tank knowing he's been trained at Ft. Knox on this same tank. You put him in there and he'll fight the tank, because he knows what to do."

This is the late 19th century theory of Management Science known as Taylorism. It had enormous cultural prestige at the beginning of the 20th century when Secretary of War Elihu Root imported it into the War Department, formerly a corporation lawyer for the Pennsylvania Railroad. In the course of the 20th century, this theory has become deeply entrenched in the common sense and the institutional policies and procedures of the American forces. By mid-century it led ultimately to policies and practices of manning units individual by individual, and providing rotation and rest and relaxation (R&R) by individual. Taken as a whole, this body of practices is known as the individual replacement system. For many Americans on active duty, this is so familiar and seems so natural that it is as invisible as water is to a fish. An Army officer once looked me in the eye and said, "It's not *possible* to do it any other way."

Almost since its inception in the first quarter of the last century, and especially after every war, American battle leaders in all services have contested the individual replacement system as a very bad fit to what's needed for fighting *other human beings*. Here's a 1947 Marine commentary by then-Lieutenant Colonel (LtCol.) Robert E. Cushman, United States Marine Corps (USMC), later General and Commandant of the Marine Corps (CMC):

⁶ Note that in Game Theory the *expected future relationship* is often the main determinant of outcome. See A. Axelrod, *The Evolution of Cooperation*, New York, NY: Basic Books, 1984. When movement of personnel in and out of units and of leaders from one job to another is sufficiently fast, the expected future relationship becomes – *NONE!*

When the fighting during and after the assault on the beach has been bitter, and the ranks of veterans are growing thin, there soon appears a point at which fresh effort must be produced by the introduction of fresh troops to replace those who have fallen. The solution to this problem of casualties and lost momentum seems simple; just replace those casualties with men who have the same skills...If war were fought entirely by machines, such a method would be ideal. However, although the needles of the classification expert unerringly slide into the proper holes and select so many...riflemen, this method does not insure that these men will fit into the team of which they must become a part. It does not mean that they know, or can work with the leaders under whom they must serve. Nor does it provide men with the superior training and discipline which veterans of a fine fighting unit invariably possess. It becomes evident then that there are intangibles involved in this problem of unit replacement...

LtCol. Cushman then describes the concept used in the Pacific island campaigns: Divisions went ashore overstaffed by “replacement drafts” who had received 45 days shore party and infantry training supervised by the pioneer battalion. According to the concept these replacement drafts function as the “labor element” of the shore party, and then as the front line battalions were attrited, they were released to them as replacements.

In the front line battalion of which I have personal knowledge, the assigned men were received by the S-1 well in the rear of the front lines, were then catalogued, welcomed to the unit, and assigned by name to certain companies. With the first such group of men it was possible to wait until the battalion went into reserve to put these men into their squads. Under this condition a small amount of training was given them in the tactics they must soon employ, and they developed some team spirit and came to know their squad leader at least. As casualties grew, however, it became impossible to wait for a period in reserve to integrate the new men. They had to be infiltrated into the lines under fire; as a consequence they did not know the men or leaders with whom they had to fight, they lost confidence because they felt alone and because they were not trained as only veterans are trained in being combat wise and “hard to kill.” It was found that the introduction of replacements in this manner did not lead to increased momentum in the attack but had a vicious effect on the cycle of casualties. The lack of confidence mentioned above required that in the attack these men be led and encouraged at great personal risk by the few veteran noncommissioned officer remaining. This led to increased casualties among these leaders, resulting in more casualties among the untrained...replacements, and thus introducing a more desperate situation within the battalion requiring that more replacements be fed in under the same bad conditions.”⁷

⁷ R.E. Cushman, “Battle Replacements.” *Marine Corps Gazette*, November, 1947, pp 46-47. We can only be heartsick when we recognize the human suffering behind this dry account.

Cushman asks why this carefully planned system failed. His answer: “...*(T)hese men entering combat for the first time found themselves not among friends but strangers. Their dominant emotion became one of self-preservation rather than a will to advance the team. Aggressiveness was lost.*”⁸

We don’t have to guess or make inferences whether Cushman thought that the *esprit de corps* developed in Boot Camp is enough. He makes it clear that it is not, and that the solution is – “The replacement must be possessed of pride in his unit...and great pride in and camaraderie with his particular leader and squad members.”⁹ This honored veteran of the same Pacific campaigns that are evoked to support the individual replacement system concludes, “the real solution therefor (sic) lies in the technique of handling and supplying replacements – the replacement method.”¹⁰

Later-to-be-Commandant Cushman was not the only leader to call for change in replacement policy and practice. Indeed many moves in this direction have been made. With the author’s permission, I reproduce here the post World War I (WWI) tabular summary of such moves in the U.S. Army prepared by Major Don Vandergriff for his forthcoming book, *The Path to Victory: Achieving Military Excellence for America* (Presidio Press, in press):

Table E-1: Unit Systems in the U.S. Army¹¹ (since WWI)

<u>Action</u>	<u>Purpose(s)</u>	<u>Terminated</u>	<u>Remarks</u>
Package unit (1944-1945)	To get sqds, plts to Europe ready for combat	Local commanders forced to break up due to combat req. and large force structure	Reversed because of monetary and manpower demand
Platoon Experiment (1953-1955) ¹²	Follow-on to WWII Platoon level practical to train, process and move overseas	Reassignment and morale problems with older, seasoned troops	Mechanically worked well, “system” can handle it. Rejected for lack of flexibility

⁸ *Ibid.*, p.47, emphasis added.

⁹ *Ibid.*, p 47. This is Cushman’s critique. On page 50 he (or the editor) summarizes his positive proposal that “replacements be trained prior to the operation as part of the unit they will eventually join. Then as casualties occur the replacements are to be assigned to the units with which they trained. In effect, each squad and platoon would maintain its own replacement reserve.” LtCol. Cushman’s proposal is explicitly a wartime battle replacement model. My “Double-Brother” proposal for enhancing the current Unit Cohesion Program accomplishes Cushman’s wartime aims, while reaping tangible benefits.

¹⁰ *Ibid.*, p 47.

¹¹ Chart was taken from a brief given to the Chief of Staff of the Army, General Edward E. Meyer, 1979 by General Richard Trefry. Discussions with Lieutenant General (LtGen.) Richard Trefry, 4 May 1998; General Trefry was inducted into the United States Army Air Force in June 1943. He has served in Korea and Vietnam as an artillery officer and was the Inspector General of the Army from 1977 to 1983, and Military Assistant to the President in 1989-1992.

¹² Office of the Chief of Military History, The Replacement System in the U.S. Army: An Analytical Study of World War II Experience. (Washington, D.C.: Department of the Army, 14 September 1950), p 45-46.

Gyroscope (1955-1959)	To raise morale and combat effectiveness	Expected results not realized, combat efficiency fluctuated with in and out flow of leaders (officers and NCOs)	Most ambitious unit system ever tried by U.S., was <u>small</u> part of larger individual personnel system
OVU repl. (Overseas Unit Replacement) (1961-1962)	Support Korea to cut down individual turbulence	Berlin Crisis (could not handle all Army contingencies, very costly)	7 brigades deployed, all expectations met, <u>no dependents</u> 12 mo. Tour to combat zone

Table E-1: Unit Systems in the U.S. Army (since WWI) (cont.)

Long Thrust (1962-1963)	Test of strategic mobility (3 Bdes) to Europe	Costs were high, readiness of units low	Completed 7 exercises, no dependents, for 3 months
ROTA plan Rotation plan ¹³	Congress directed to measure costs of deploying units	Personnel turbulence and readiness were poor, costs were high	No dependents, 6 mos Temporary Duty (TDY) Would take 3 brigades to support rotation plan
REFORGER (1969)	Military deployment exercise, draw equip. from sites	Too many force structure to plan, costly, morale was poor, as well as readiness	Only involved one brigade of 24th Infantry Division (ID). Deployed to exercise with North Atlantic Treaty Organization (NATO)
UN rotation (United Nations) (1970s)	Exercise of joint Air Force / Army Show support for UN	Very costly, brought down readiness, pressures from major Army commands	Army commands against it initially, but Secretary of Defense approved
COHORT (1979-1991)	To build cohesion rotate companies and Battalions within Divisions	Failed because it was small part of a larger individual system, took away flexibility to move individuals; entirely run off-line; hated by personnel men	Those who served in it thought highly of it; studies showed it worked in units, built cohesion. Officers believed it hurt careers because unit readiness reporting penalized COHORT train-up phase

¹³ U.S. Army Europe, Evaluation Reports, ROTA PLAN (Heidelberg, Germany: Department of the Army, 16 May 1963), p 1-15.

II. Why Does Cohesion Matter?

The background essay, “Preventing Psychological and Moral Injury in Military Service” (found in Annex 1), which I delivered at the very start of this project, laid out the force protection and ethical reasons to foster positive qualities of community in face-to-face units. This section addresses the military performance side of the question, “Why does cohesion matter?”

A. The Bright Side

We must expect many circularities: Cohesion reduces fear in the face of real danger, BUT going through danger together increases cohesion. Here are several more of these circularities:

- Cohesion becomes portable from unit to unit as *esprit de corps* and increases *esprit de corps*,¹⁴ BUT *esprit de corps* encourages cohesion among thrown-together Marines who are strangers to each other.
- Trust makes consistent truthfulness possible, BUT consistent truthfulness makes well-founded trust possible.
- Cohesion increases success in acquiring difficult military skills; BUT success in executing difficult military skills increases cohesion of the unit.

These circularities are rising (or falling!) social and psychological spirals in time, not signs of logical failure or empty identities. The high art of military trainers and leaders is to create and harness these rising spirals.

1. Cohesion and Courage

In a famous and oft-quoted passage, the 19th century French colonel Ardant du Picq wrote:

Four brave men who do not know each other will not dare to attack a lion. Four less brave, but knowing each other well, sure of their reliability and consequently of mutual aid, will attack resolutely.¹⁵

The good 19th century colonel, being French, couches this in essentially rational terms: these mutually familiar men can rationally forecast each other’s moves and each other’s commitment when the going gets tough. While I have no wish to disparage the value of rational forecasts, this is not mainly what’s in play here.

¹⁴ *When leadership is good*, otherwise the cohesion may turn the group’s motivation and attitude *against* the chain of command.

¹⁵ Ardant du Picq, *Battle Studies*, translated by J.N. Greely and R.C. Cotton, In *Roots of Strategy, Book 2, 3 Military Classics*. Harrisburg, PA: Stackpole Books, 1987, p 136. Du Picq appears to make the unstated assumption that the four familiar men of the illustration expect to continue to have a relationship with each other in the future. Consider whether they would be so courageous in their cooperation if they knew they would never see each other again after the lion hunt. Game Theory predicts that this makes a difference.

The *human brain codes social recognition, support and attachment as physical safety!* Cohesion not only increases the overcoming of fear that we call courage, it *reduces* fear. The fictional Spartan NCO named Dienikes, in the acclaimed novel *Gates of Fire*, puts it very compactly: “The opposite of fear...is love.”¹⁶

Note that du Picq’s rational expectation arising from mutual familiarity and the non-rational effect of mutual love work together. I shall point out below that they require essentially the same conditions for their creation.

It is a commonplace of religious thought that awareness of God’s love *reduces fear*. The Biblical *Psalms* have this as one of their major themes – hardly an accident, because a fighting man, King David, composed them.

It is likewise commonplace that awareness of the love of one’s parents, children, and spouse can control both physical fear, when confronting physical danger, and social fear when confronting moral danger. These commonplaces are no less true for being overused. This forms one variation of what could be called the “right stuff” theory of good military performance. According to this theory, some people – mysteriously – have the “right stuff” in their character, and all you have to do is sift them out of the population. Proponents of this theory will say that high-performing units can be built *ad hoc* any time from people with good individual training, *esprit de corps*, and the “the right (individual) stuff.”¹⁷ I would not attempt to disprove this assertion as it stands – but only point out that it cannot reliably be put into practice in the real world for *whole* American military services, whereas the alternative, creation of cohesive units of unselected ordinary Americans *can* be put into practice.

2. Cohesion and Fortitude

Privation and sheer physical exhaustion that infantrymen, particularly light infantry, must endure are justly famous. *Shared* privation is easier to bear. “Keeping together in time”¹⁸ (e.g., cadence) eases exhaustion and makes physical effort more efficient. As already pointed out, shared privation *creates* cohesion. Going through privation *together* is a powerful creator of social bonding; and a positive social meaning of privation can make it more endurable. Again, this is not “circular meaning.” It is an observable fact of how good units develop through time. Commitment, stoical endurance, fortitude are all “contagious” within the cohesive group (as are their opposites – especially when the groups concepts of “what’s right” have been betrayed).

¹⁶ S. Pressfield, *Gates of Fire*. New York, NY: Doubleday, 1998, p 380. A real Spartan Dienikes (or Dionikes) is mentioned in ancient stories as having fallen at Thermopylae.

¹⁷ Elite formations tend to be firm believers in the “right stuff” theory. They tend to overlook the fact that elite formations get the right *resources* – of stability / cohesion, competent leadership, and prolonged, cumulative, realistic (state-dependent) training. My personal fire-in-the-belly mission is to see these good resources provided to *every* combat arms and direct combat support service member in *all* parts of the U.S. armed services.

¹⁸ William H. McNeill, *Keeping Together in Time: Dance and Drill in Human History* Cambridge, MA: Harvard University Press, 1995.

Readers of the essay might have already noticed that I am working my way through Carl von Clausewitz’s account of “friction” in war: mortal danger, privation, physical exertion, fatigue, the uncertainty of vitally required information, random chance, and environmental drags like mud, fog, and the enemy’s destruction of supplies.¹⁹ The paper, “*Trust: Touchstone for a Practical Military Ethos*” found in Annex 2, defines these classic Clausewitzian frictions as “external friction” in military operations, fleshes out this discussion.

The following table summarizes the roles of cohesion in “lubricating” Clausewitzian friction:

**Table E-2: How the Lubricant of Trust Reduces Clausewitz’s “Friction”²⁰
(The External Component of Friction)**

Clausewitz’s Components of Friction ↓↓↓↓	COHESION	LEADERSHIP	TRAINING
DANGER	The body codes social recognition as safety. Unit pride, desire to protect comrades, reduce fear, freeing cognitive and emotional resources	Multiplier effect of social recognition by leader on sense of safety. Confidence in leader’s competence and caring reduce fear	Sensory habituation, confidence in own perceptions and skills, confidence in peers’ and unit’s skills. State-dependent learning makes cognitive resources available during danger
PRIVATION AND EXERTION	Shared privation easier to bear. “Keeping together in time” (e.g., cadence), social meaning of privation	Meaning, purpose, ethical context, fairness, caring, “contagiousness” of leader’s own commitment seen in sharing dangers and privations	Actual strengthening and toughening (“training effects” narrowly defined), habituation, familiarity, confidence in own resilience
UNCERTAINTY OF INFORMATION	Suppression of fear through group narrative, energy available to take in the environment	“Contagiousness” of leader’s confidence (comes in part from support by leader’s own boss), confidence in leader’s competence	Greater ability to discriminate what’s real and what’s important, experience of getting through confusion

¹⁹ Carl von Clausewitz, *On War*, edited and translated Michael Howard and Peter Paret. Princeton, NJ: Princeton University Press, 1984, p 122, 104, 114, 115, 117-118, 119-120. Field Manual (FM) 22-100 *Army Leadership*, Revised Final Draft, p 135, quoted as “Carl von Clausewitz” without citation.

²⁰ *Ibid.*

CHANCE	Suppression of fear through group narrative, energy available to take in environment	Supported leader able to take in the environment and use chance to advantage	Confidence in own, unit's, leader's resourcefulness in the face of the unexpected, based on experience
FRICITION (NARROW DEFINITION)	Cooperation, mutual aide, knowing each other's job, anticipating each other's needs, "implicit understanding and communication" facilitate self-initiated, on-the-spot problem solving	Flexibility, all echelons and ranks know commander's intent two echelons up, so not bog down, not become inert	Prolonged, realistic, progressive training and going through things together in a stable unit creates spontaneous models of cooperative learning, results in knowing each other's job, anticipating each other's needs, "implicit understanding/communication"

3. Cohesion and Learning (and re-learning)

General Donn Starry, United States Army (USA), retired, considered by many to be the father of the Abrams Tank, is fond of telling a story about superb tank gunnery he witnessed in Israel. He says he asked, "So how many rounds do you fire every year to get to shoot like that?" expecting the Israeli tanker to answer in the hundreds. He reports his own amazement when the answer came back, "Oh, maybe six or eight." And then noting General Starry's astonishment, his informant said, "but remember that we've been together in this tank and the ones before it for fifteen years!" Experiments done at General Starry's request when he was the U.S. Army's Training and Doctrine Command (TRADOC) commander in the 80's showed (1) that combat skills like tank gunnery are *perishable* (which everyone knew) but that the speed and completeness with which former proficiency could be *re-trained* were greatly increased by retraining with the same team that the skill had originally been trained up in.

The skills of the infantryman are every bit as complex as the skills of the tank crew, every bit as perishable, and just as responsive – both positively and negatively – to the social stability of the learning environment. General Donn Starry has been kind enough to supply me with portions of the massive *Army Training Study* which examined the impact of turbulence (the inverse of stability) on the amount of time it takes to meet a realistic proficiency standard. They defined turbulence as "changes in job positions, that is, the results of moving troops to new duties both as a result of transfers in and out of the battalion *and of reassigning troops to other duties within the unit.*"²¹ They found that when total turbulence so defined went from 20% per quarter to 35% per quarter the length of time required to reach proficiency increased about a third with costs increasing slightly less but in the same ballpark. When turbulence reaches 50% per quarter the time to proficiency about doubles and costs increase 50-80% depending on the cost categories. They noted an additional price paid, which ultimately shows up in retention – when turbulence is 20% or below it is not necessary to train on weekends and holidays,

²¹ Emphasis added.

whereas when turbulence increased, Soldiers had to work when they ordinarily would have been with their families.²² General Starry's dour summary is more forthright: "When turbulence exceeds 20% per quarter, all training – no, make that all *learning* – stops."²³

The late General Max Thurman, the Army TRADOC commander in 1989, wrote to his boss a summing up of experience to that point with the Unit Manning System (for our purposes, a synonym for COHORT) eight years after its official start:

There are two aspects to the problem of turbulence in units: external turbulence (beyond the control of the unit commander...) and internal turbulence (intra-unit movement by the unit chain of command). Focus in the past has been entirely on control of Personnel Command (PERSCOM)²⁴ – induced turbulence. *Other causes of turbulence were neither addressed in policy nor measured during evaluation.*²⁵

Recall that General Starry had evidence that it was the *total* turbulence, cross-battalion plus within battalion, which so strongly affected how well Soldiers learned. General Thurman's frustration that no one could say how much shuffling was going on is something I can sympathize with. I have to report complete failure of my hope to provide a snapshot of within-battalion turbulence for infantry battalions. Whether at Quantico or at the two battalions I visited, everyone I asked felt certain that that type of data was available – however, someone else must have it. The defects in the Marine Corps Total Force Structure (MCTFS) company / platoon / squad data are discussed in Appendix B.

Because the development of military skill, particularly unit skill, along with leader competence are most important factors in reducing *all* casualties, physical as well as psychiatric, I shall expand on the interaction between cohesion and training in a separate section below.

4. Cohesion, Situational Awareness, and Tactical Decision Making in the Empty Battlefield

War, and lots of military situations short of war, are not manipulations of inanimate matter. They are conflicts between *humans* – with *both* sides displaying the human species traits of self-sacrifice, intelligent observation, inventiveness, patience, courage, and fortitude. Likewise, both sides have the all-too-human capacity for contempt and underestimating the enemy, for panic, confusion, recrimination, mistrust of allies and own forces, for culturally dictated blindness, and stubborn adherence to a prior success or prestige.

²² *Army Training Study 1977-78*, Summary volume p. III-15.

²³ Personal communication.

²⁴ PERSCOM is the Army's functional equivalent of M&RA.

²⁵ Memorandum of 4 March 1989, TRADOC CG to Assistant Chief of Staff (ACOS), p 6. Copy generously supplied by John Tillson of IDA.

I shall use one approach to human struggle, that of the late Colonel John Boyd, United States Air Force (USAF) – his famous analysis of the “Observation, Orientation, Decision, Action (OODA) Cycle”²⁶ – to explain why cohesion is a combat strength multiplier. Anything that speeds the OODA Cycle can be understood as having reduced *internal friction*.²⁷

How fast can the OODA cycle turn? Boyd’s analysis is claimed to apply “to any direct conflict, whether the antagonists are individual boxers, soccer teams, military units in combat, or businesses in a competitive market. It defines the cycle by which we make decisions in a competitive situation.”

The OODA loop applies to any two-sided conflict...OODA is an acronym for observation-orientation-decision-action, which describes the basic sequence of the command and control process.... When engaged in conflict, we first observe the situation – that is, we take in information about our own status, our surroundings, and our enemy. Sometimes we actively seek the information; sometimes it is thrust upon us. Having observed the situation, we next orient to it – ...we try to figure out what the situation means to us. Based on our orientation, we decide what to do – whether that decision takes the form of an immediate reaction or a deliberate plan. Then we put the decision into action. This includes disseminating the decision, supervising to ensure proper execution, and monitoring results through feedback, which takes us full circle to the observation phase. Having acted, we have changed the situation, and so the cycle begins again... In any conflict, the antagonist who can consistently and effectively cycle through the OODA loop faster – who can maintain a higher tempo of actions – gains an ever-increasing advantage with each cycle. With each reaction, the slower antagonist falls farther and farther behind and becomes increasingly unable to cope with the deteriorating situation. With each cycle, the slower antagonist’s actions become less relevant to the true situation.²⁸

²⁶ Major John F. Schmitt, United States Marine Corps Reserve (USMCR), assigns intellectual property rights in this body of ideas to Brigadier General (BGen.) F. P. Henderson, USMC, and claims Boyd merely “popularized” it. *Marine Corps Gazette’s Mastering Tactics*, Quantico, VA: Marine Corps Association, 1994, p 61. This is an implausible claim, given that Boyd developed these ideas to explain the success of American Saber Jet pilots in the Korean War against MiGs that—on paper—should have won every time. See Grant T. Hammond, *The Mind of War, John Boyd and American Security*, Washington DC: Smithsonian Institution Press, 2001, for the chronology of the development of Boyd’s ideas vice Henderson’s in the period Schmitt refers to, i.e., the late ‘60s and early ‘70s.

²⁷ Francis Fukuyama, *Trust: The Social Virtues & the Creation of Prosperity*, New York, NY: Free Press. Pp 26-8. I believe there is an exact conceptual parallel between “transaction costs” of low trust in the economy, and internal (“self-generated”) component of friction in military operations. I do not doubt that military social scientists could measure the lost speed and quality of military performance caused by lack of trust, just as economists are able to measure transaction costs in the economy. Fukuyama makes great use of the concept of “social capital.” First rate military organizations understand how to reliably *create* social capital.

²⁸ Marine Corps Doctrinal Publication 6 – *Command and Control*, Pp 63-64.

According to this analysis, anything that increases the speed at which the OODA cycle turns over – anything that lubricates and overcomes the internal, *self-induced* component of friction – will disproportionately contribute to combat success. I hope to persuade the reader that cohesion is such a lubricant.

OBSERVATION: Members of cohesive units are able to take in the environment and focus on the enemy, because they know that others in the unit are covering their backs. No cognitive or motivational resources are wasted in worries about the incompetence, selfishness, or lack of commitment of peers. Leaders (and this applies equally to field grade and company grade officers) experience a similar freeing up of resources when they know their bosses trust and support them. They can focus outward on the enemy, rather than focus inward on pleasing the boss, on looking good, or on institutional structures, politics, and procedures.

ORIENTATION: Because solidarity suppresses fear of the enemy, Marines are able to *think*. We must root out the folk culture that assumes that the lowest ranks not only can't think but shouldn't. Intelligent observation and thoughtful interpretation of the things seen, heard, and smelled must be cherished at *every* rank. Every rifleman should be as skillful a tactician for the fifty meters directly in front of him as his battalion Commanding Officer (CO) should be for the 5,000 meters ahead of him. When cohesion is absent, mistrust of peers, of subordinates, of superiors clouds the mind with fear at every echelon even when the enemy is not especially dangerous. Properly supported leaders are able to *think, plan, and organize* (based on mission and what the enemy is doing) far better than leaders living in a “zero defects,” climate of document-it-all-to-prove-you're-not-to-blame-because-you-were-following-orders-or-the-school-solution. Supported leaders don't bleed energy and attention into ***-covering (expletive deleted); they are not tyrannized by school solutions; they don't waste their energy trying to discover imperceptible clues to what would please the boss.

DECISION: Empowering the echelon on the ground in direct contact with the situation entrusts them to make decisions in accordance with the commander's intent – there is no “waiting for orders.” A “strategic corporal” who is not sure of his people – because he hardly knows them and has no history with them of coming through hard things together – is far less likely to take initiative and make decisions based on commander's intent. He is far more likely to buck the decision up the chain of command.

ACTION: Decisions *stick* when they are owned by cohesive units: no foot-dragging, sabotage, or Lone Rangerism. Execution carries full commitment by all because of their *real* training experiences *together*. *Confident execution*.

Because cohesion is a condition of mutual trust and confidence based on concrete familiarity, it frees cognitive and motivational resources for *every* step in the OODA cycle, improving their quality, and speeding them up. This is true for every echelon from Marine fire team to Marine Expeditionary Force (MEF) commander.

**Table E-3: How Trust Lubricates the OODA Cycle
and Frees Resources for Every Step in it
(i.e., Reduces the Internal Component of “Friction”)**

	COHESION	LEADERSHIP	TRAINING
SOME SELF-GENERATED FRICTION THAT TRUST REDUCES IN <i>OBSERVATION</i>	Able to take in the environment and focus on enemy, knowing your back is covered, rather than focus on the incompetence, selfishness, lack of commitment of peers	Able to take in the environment and focus on enemy, rather than focus on pleasing boss, on looking good, on institution politics & procedures	Training has been realistic, prolonged, progressive, and state-dependent, leading to confidence , so cognitive resources are available – attention to enemy and environment
SOME SELF-GENERATED FRICTION THAT TRUST REDUCES IN <i>ORIENTATION</i>	Able to think , because solidarity suppresses fear of enemy. Mistrust of own peers, subordinates, superiors, clouds the mind with fear even when the enemy is not especially dangerous.	Able to think, plan, and organize , based on mission and enemy, without energy and attention hemorrhages of ass-covering, tyrannization by school solutions, trying to dope out what would please the boss	Able to quickly and flexibly rearrange data into alternate interpretations, because of training experiences, able to listen to others and tolerate disagreement , because of trust in subordinates, peers, superiors, self- confident assessment
SOME SELF-GENERATED FRICTION THAT TRUST REDUCES IN <i>DECISION</i>	Empowerment of lowest possible echelon allows decision to be taken at the echelon in contact with enemy – no “waiting for orders.” Individual and unit competence is empowering in a fight.	Empowered to make decisions based on commander’s intent. Institutional safety to do so – no “waiting for orders” no fear of being abandoned by boss – confident decision	Training has rewarded and habituated to taking initiative, has been negatively sanctioned waiting for certainty and “waiting for orders.”
SOME SELF-GENERATED FRICTION THAT TRUST REDUCES IN <i>ACTION</i>	No foot-dragging, sabotage, Lone Rangerism, because decisions owned by cohesive units stick – confident execution	Higher echelons provide resources and support to greatest degree possible. Seniors committed to subordinates’ success. Subordinate leaders not distracted by watching their own backs during execution.	Execution carries full commitment by all because of real training experience together ; everyone watches each other’s backs; nobody distracted by watching own back.

5. Cohesion and Unit Effectiveness in the Face of Personnel Losses

Our Department of Defense (DoD)-wide policies for determining unit “readiness” focus on the percentage “fill” that units have relative to their Tables of Organization (T/O). While there are many salutes and solemn kudos to morale, *esprit*, and cohesion, these are not measured quantitatively, and are treated as a mysterious *je ne sais quoi*. What our policies carry out in practice is the counter-factual notion that twelve well-trained strangers will achieve more in a fight than nine men who have worked and trained hard as a team in tough conditions. The Institute for Defense Analyses (IDA) study, *The Relationship of Battle Damage to Unit Combat Performance*²⁹ rejects the belief that the crude act of infusing raw troops to restore the numbers of an attrited unit preserves combat capability – it often *reduces* combat capability.

The survivors of the original unit will have developed along with experience the teamwork so crucial to effective operation. Filling the ranks with inexperienced men reduces the effectiveness of the teamwork....A unit that has lost, say, 30 percent casualties but remained effective, becomes less effective if those losses are replaced in a short period of time. Nor does there seem to be any direct relationship between a flow of replacements and the maintenance or restoration of morale.³⁰

This study addressed battle losses, but the same phenomenon can be found in peacetime. A unit that has trained together and become “tight,” but which has lost some of its personnel to injury, legal problems, or family crises, may become substantially less capable when its numbers are suddenly filled just before a deployment.

Objective familiarity (easily measured as the amount of time members of a given unit have been together) and the more complex phenomenon of cohesion,³¹ *are completely invisible to our readiness reporting system*. Decisions are made, reports sent to DoD, officer careers strengthened or damaged on the basis of the crude inventory measure of “personnel fill.”

B. The Dark Side

American military folk culture (reflecting the larger American management folk culture) reflexively worries that any solidarity among troops will turn against the chain of command. I heard a number of such worries voiced in my field interviews.

The draft chapter (Annex 3), “Biological Significance of Social Trust,” from my new book *Odysseus in America*, makes the point, already mentioned, that cohesion is a

²⁹ L. Wainstein, *The Relationship of Battle Damage to Unit Combat Performance*, IDA Paper P-1903, 1986.

³⁰ *Ibid.* p 4.

³¹ which *can* be measured, but with more difficulty than familiarity, and with more opportunities for corruption by leaders trying to look good.

phenomenon of nature, like electricity. It is intrinsically neither good nor bad in itself.

In this section I look at the dark side of cohesion, when it can work against legitimate military purposes and when it can turn “inhuman” and ugly as a cause of suicides and the strength of criminal gangs and mutineers. As with the bright side of cohesion, its dark side has a whole spectrum – and I shall start with the least sensational “hot button” negative aspects of cohesion:

1. Cohesion and Narrow-Mindedness – Inability to Cooperate and Communicate in Peer, Combined, and Joint Operations

I have mentioned the British infantry regiment as the *locus classicus* of *esprit*. Historically they have also been quite cohesive at the small unit level and have been fine soldiers performing very well. Historically, however, British regiments have a pattern of failures directly related to the way they practiced cohesion and *esprit*: they were very poor in their ability to cooperate and communicate with neighboring infantry peer units, with other arms.

Lack of trust and communication with peer infantry battalions in the field led to the British habit of very sharp unit boundaries and prohibition of initiatives that would cross those boundaries. Such “weakness at the joints” became a well-known and tempting target for enemy exploitation. The great power of a strong “we” was sometimes perverted into a view of other battalions as a danger and unworthy of concern.

The *esprit* of American military services became so narrow-minded and mutually antagonistic in the decades after WWII that it prompted Congressional intervention in the form of Goldwater-Nichols. According to General Anthony Zinni, USMC, this is still a problem:

The National Security Act of 1947...set up the most dysfunctional, worst organizational approach to military affairs I could possibly imagine. In a near-perfect example of the Law of Unintended Consequences, it created a situation in which the biggest rival of any U.S. armed service is not a foreign adversary but another one of its sister U.S. services. We teach our ensigns and second lieutenants to recognize that sister service as the enemy. It wants our money; it wants our force structure; it wants our recruits. So we rope ourselves into a system where we fight each other for money, programs, and weapon systems. We try to out-doctrine each other, by putting pedantic little anal apertures to work in doctrine centers, trying to find ways to ace out the other services and become the dominant service in some way. These people come to me and the other Commander in Chiefs (CinCs) and ask, "What's more important to you – air power or ground power?"

Incredible! Just think about it. My Uncle Guido is a plumber. If I went to him and asked, "What's more important to you – a wrench or a screw driver?" he'd think I'd lost my marbles.

Such inward looking insularity of the British infantry regiment led to repeated difficulties with combined arms, whether with artillery or later in its history, with armor and aircraft.

Cumulatively, over decades and centuries, the inability to cooperate, communicate, and effectively engage all arms costs a nation and its forces *far more* than the rare mutiny or sporadic criminality which rivet people’s attention. So is this an argument *against* cohesion and *esprit*? Should we create an inventory of forces with a variety of weapons and skills and “task organize” on an *ad hoc* basis, relying entirely on rational technologies of formal organization, planning, standardization, and interoperability to 20th century U.S. approach – the Fredrick Taylor / Max Weber approach.

There are two sorts of answers to this objection:

One answer is to create combined arms formations from the start, having the infantry mess, billet, and constantly exercise with the other arms, along with rituals of solidarity that ensure that the gunners, tankers, and fliers are as much “we” as other infantrymen and *vice versa*. This isn’t rocket science – it’s simple familiarity and training together. A number of American formations, such as some armored cavalry regiments, are combined arms units throughout their existence, both in depot and as deployed. More often, however, we follow the idea of task-organized brigades. When we are lucky, as in the Gulf War, we get time to exercise together before the fight. Infantrymen and tankers are *not* like carburetors and brake pads. The carburetor does not need to get to know the brake pad in order to function successfully in a moving automobile.

The second answer takes a broader perspective: A fighting force needs *both* the benefits of modern-age rationality *and* the primeval solidarity of the “band of brothers.” The trick is figuring out when, how, and why for each of them. The fundamental guidelines for which of these is called for in what setting are not new. Von Clausewitz spoke them very clearly almost two centuries ago when he pointed out that many activities involved in arming and preparing for a fight, and getting to it, do lend themselves very well to scientific-style rationality, but that the actual conduct of the fight does not.

Table E-4: At the Point of the Spear Compared with Behind It

	Close to the point of the spear	Far from the point of the spear
Main source of resistance	Intelligent, courageous, self-sacrificing, innovative, human enemy	Natural world barriers of time, weight, distance, material production. Market forces, mobilization of economic interests.
Optimum source of solidarity	Cohesion and <i>esprit</i>	Division of labor and <i>esprit</i>

Optimum form of governance	Leadership	Management
Optimum training	Force-on-force, free play	Standardized training to objective standard
Successful form of rationality	Non-linear, organic, social-emotional, cunning, concealment, surprise	Linear, quantitative, impersonal, emotionally detached, prediction, transparency
Main traits of the environment	Change, chance, uncertainty	Stability, control, predictability
Traditional virtues	Courage, personal loyalty, <i>thumós</i> (the energy of spirited honor), passion	Rationality, emotional neutrality, fairness

2. Cohesion and Localism / Regionalism / Tribalism

Fortunately for American forces, there are no regional or “tribal” divisions within the nation that impair our ability to assemble units or assign leaders to them. Bruce Gudmundsson has supplied me with the following current examples where this is not the case:

(An) example comes from the Indian Army, where religion plays a big role in determining both assignments and promotions. Thus, Sikhs, Jains, Hindus and Muslims serve in different companies and there are quotas that limit the number of members of each group that can be commissioned. Among Hindus, moreover, the fact that caste distinctions have been illegal for more than half a century does not prevent caste affiliation from playing a big role in recruiting.

Closer to home, Canada is plagued by armed forces that are divided along linguistic lines. The Francophone 5th Brigade Group, for example, has become, in essence, the private army of the Province of Quebec. It's deployment on the Mohawk reservation at Oka in the 1980s was the cause of much friction, largely because the Mohawk saw the replacement of "British" soldiers (their traditional allies) with "French" soldiers (their traditional enemies) as a breach of faith.

However, the converse is often raised in discussions of military unit cohesion – “Wouldn’t it be better to raise a unit all from the same town so that they all know each other from high school?” This kind of comment usually reflects a well-intentioned effort to find cohesion pre-fabricated. In my opinion, it reflects a historical accident – the association between the Continental regimental system, which used a geographical

recruiting base – and a failure to grasp that good quality modern military *training* can routinely produce cohesive units from complete strangers, if military *administration* allows it to happen. The cohesive benefits usually attributed to the regimental system have come from the “life-cycle” manning system usually associated with it. Hometown familiarity is *not* required to produce cohesive units.³²

This issue cropped up indirectly in my site visits, where a few leaders at one site said that they thought the mixing of School of Infantry (SOI) East and SOI West enlisted Marines in a single fill was a mistake because the “cultural differences” made it hard for them to bond. (One blamed the mixing of SOI grads on the Unit Cohesion Program’s requirement to provide a large number of Marines at one time.) However, other leaders said this was no problem at all and that mixing enlisted Marines from both coasts was important to maintaining the one-nation perspective of the Marine Corps.

3. Cohesion and Suicide

Nothing so well illustrates the fact that cohesion is simply a natural phenomenon, neither good nor bad in itself, as its relation to suicide. In the following situations high cohesion can be considered a *cause* of suicide:

- A member of a cohesive unit believes that his failure, error, or misconduct has dishonored his unit, and only his death can “atone” for it.
- A cohesive unit consistently scapegoats one of its members and “drives him to suicide.”

One of the founding fathers of modern sociology, Emile Durkheim, thought that the first was sufficiently distinct and common that he saw in it a separate category of suicides, which he called “altruistic suicides.” Military suicides were the main European examples he had in mind.

The U.S. armed forces today are very alert to the need for suicide prevention. The general posture has been that every suicide is a leadership failure. In my view this is an overstatement as it applies to the altruistic suicides, in that the dishonoring event may be successfully hidden from unit leaders until after the death. However, it is *not* overstated for suicides caused by scapegoating, which does not arise overnight and cannot be concealed from anyone paying attention. In such cases, the unit leaders were at best culpably inattentive; and at worst, connived at or encouraged the scapegoating.

4. Cohesion and Criminal Gangs or Rampaging Rabble

Many criminal gangs are highly cohesive. They recognize obligations to each other, make sacrifices, and take risks to protect each other. It is common for this fact to be raised to disparage attempts to promote cohesion, as though the criminality was caused

³² In my view, the major drawbacks of a hometown focus to recruiting specific units are (1) the horror of a whole generation of the town’s young people being wiped out in one catastrophic battle, (2) heightened political meddling in the units, (3) long term weakening of national unity.

by it. Pre-existing criminal gangs can operate within military institutions, just as they can operate within legitimate businesses, labor unions, and political organizations. Criminal gangs can also arise spontaneously within military institutions. The late Faris Kirkland, writing in a chapter called “Honor, Combat Ethics, and Military Culture” for the new ethics volume of the U.S. Army’s official *Textbook of Military Medicine*³³ recalls:

(T)he new lieutenant detailed to inventory the receipts from the officers' club slot machines. The club officer shows him four piles of coins, saying, "This one is for the club, this one for me, this one for you, and this one for the post commander."

As with scapegoat suicides, I believe it is legitimate to hold leaders accountable when units under their command degenerate into criminal gangs. It doesn’t happen in a flash; it’s hard to miss if you show up and listen and keep your eyes open.

However, the general level of criminal behavior, as defined by “the number of apprehensions by local military police for all crimes during the last twelve months,” has been found to be *negatively* correlated with cohesion – the higher the cohesion, the fewer crimes, the lower the cohesion, the more crimes. In an Army study of cohesion in twenty battalions of the VII-Corps by its Inspector General (IG), the rate of crimes in the five battalions with the lowest level of cohesion averaged three times higher than in the five battalions with the highest level of cohesion.³⁴

Despite the commonplace experience that well-led, cohesive units do not tolerate misbehavior by their members, American military folk culture continues to predict that if enlisted men are allowed to bond with each other, this will lead to the formation of criminal gangs.³⁵

The relationship of unit cohesion to “loss of control” and “running riot” is not easy to discern. When British troops in 1813, broke through the defenses of San Sebastian and ran riot in the town, they had lost their direct leaders in the preceding battles. They were leaderless, and rapidly opened the town’s wine and brandy casks³⁶ The role of alcohol in disconnecting troops from their leaders and from good behavior is attested as far back as Homer’s *Odyssey*. Odysseus loses control of his troops when they sack Ismaros:

The wind that carried west from Ilion

³³ Surgeon General of the U.S. Army, Borden Institute, In press.

³⁴ F.J. Manning and L.H. Ingraham, “An Investigation into the Value of Unit Cohesion in Peacetime.” In *Contemporary Studies in Combat Psychiatry*, edited G. Belenky, New York, NY: Greenwood Press, 1987, p 59.

³⁵ This fear was stirred up among the leadership of the Veterans Administration (VA) where I am a psychiatrist, when our treatment program for violent veterans with combat post-traumatic stress disorder (PTSD), many with serious criminal records, based its approach on fostering strong cohesion among the veterans. After 22 years of experience with this program, the local VA leadership has accepted that this cohesion produces a marked *decrease* in violence and criminal behavior, and no longer blanches at the thought.

³⁶ B.A. Watson, *When Soldiers Quit: Studies in Military Disintegration*, Westport, CT: Praeger, 1997, Pp 80ff.

brought me to Ísmaros, on the far shore....
 I stormed that place and killed the men who fought.
 Plunder we took...
 but on the spot I told them: 'Back, and quickly! 50
 Out to sea again!' My men were mutinous,
 fools, on stores of wine.....while fugitives went inland, running
 to call to arms the main force of Kikones.....
 They came
 with dawn over that terrain like the leaves
 and blades of spring. So doom appeared to us....
 Six benches were left empty in every ship
 that evening when we pulled away from death.³⁷

Two infamous massacres of civilians – the Sand Creek massacre of Cheyenne in 1864, and My Lai, Vietnam, 1968 – were *ordered* by the leadership on the spot.

5. Cohesion and Mutiny

Watson's *When Soldiers Quit: Studies in Military Disintegration* analyzes the causes of the 1917 French Army mutinies as meaninglessness, normlessness, isolation, powerlessness, and alienation. These are well suited to explain the famous combat refusal – more like a strike than a rebellion – in parts of 54 out of the 100 French divisions at the front in 1917.³⁸ Watson's retelling of the story of the Moslem and Hindu sepoys in the 1857 Indian Mutiny³⁹ is profitable reading for American officers in coalition operations. The story may help them resist the temptation to dismiss cultural considerations as “touchy-feely.” This is not to say that officers need to be universal experts, but that timely, knowledgeable forecasts of cultural reactions can be as mission-critical for such operations as weather forecasts. Watson's well-told story of the pig (which enraged the Moslem sepoys) and / or cow (which enraged the Hindu sepoys) grease on the bite-off-to-use Enfield rifle cartridges in the Indian Mutiny should at least remind officers to get such input and to take it seriously.

However, the general unease that the social power created at the lowest echelons by unit cohesion will inevitably turn against the chain of command has its origins not in any well-established pattern in military history, but rather in the wider American management culture. Cohesion among workers is seen as either the result of union activity or leading to unionization, or worse, to Communism. Time and again in the last two decades, individual business units of large American corporations have enjoyed great increases in profitability, profit, and quality, when they adopted the “work team” approach which coheres workers at the lowest echelon – only to have the parent company swoop in and

³⁷ Homer, *Odyssey*, translated by R. Fitzgerald, New York, NY: Random House, 1961, Book 9, lines 44ff.

³⁸ Watson's *When Soldiers Quit: Studies in Military Disintegration* analyzes the causes of the 1917 French Army mutinies as meaninglessness, normlessness, isolation, powerlessness, and alienation. These are well suited to explain the famous combat refusal – more like a strike than a rebellion – in parts of 54 out of the 100 French divisions at the front in 1917.

³⁹ Which his supposedly universal sociological observations on the French WWI mutinies fit very *badly*.

undo it.

III. Cohesion as a Phenomenon of Nature

Fruitless wrangling: cohesion is intrinsically good *vs.* cohesion is intrinsically bad. People with the former view, sing its praises as the source of military courage, self-sacrifice, and the joy of comradeship; those with the latter view scorn it as inimical to the chain of command and the source of criminal gang formation, mutiny, and goldbricking. In fact it is neither or both, it simply *is*, like electricity. Cohesion is a phenomenon of nature, arising as an aspect of human biological evolution. If electricity heats your house or bakes your bread, it is good; if it electrocutes your child, it is bad. Electricity itself is neither good nor bad – it simply is. At any given moment it is present within certain parameters, the values of which vary according to conditions.

As intellectually stimulating as it may be, discussion of the evolutionary biology of military self-sacrificial altruism has been relegated to an essay in Annex 3, titled “Biological Significance of Social Trust.” However, there is one aspect of cohesion as a biological phenomenon that deserves front-and-center treatment here, and that is the interaction of familiarity and cohesion.

Certain aspects of the development of trust and social attachment are so obvious that they may escape notice:

- Time spent together
- The physical and social distance during these times spent together
- The physiological states associated with the things done together

The effect of these variables is as much a result of our biological nature as the dependence of physical conditioning on muscle physiology, skeletal mechanics, and the metabolism of food and water.

A. Increased Time Together Increases *Familiarity and Cohesion*

Barring chemical manipulation of the brain⁴⁰ – which we won’t do for reasons of safety and ethics – it takes *time together* for people to develop mutual recognition and attachment. While we may hear stories of “love at first sight” that apparently required no time for its development; we cannot build institutions and policies on such anecdotes.

Whatever else can be said for and against the open squad bay layout of barracks, they led junior enlisted Marines to spend significantly more time with each other and with their direct leaders than they do in dormitory-style barracks. Several sergeants expressed themselves vehemently on this subject during my site visits.

⁴⁰ The Drug Enforcement Agency (DEA) Schedule I illicit drug methylenedioxymethamphetamine [(MDMA), street name “ecstasy”] is alleged to create a deep sense of love and trust among those present taking the drug. This is apparently a major part of its appeal as a street drug.

B. Biologically Privileged Group Sizes?

Primatologist and psychologist Robin Dunbar has presented evidence that the basic human ancestral community in which our present brain evolved is still imprinted in our brain's social processing. He presents evidence that the upper size limit for this "natural" human group is about 150 souls⁴¹ – about the size of a company. This number ± 50 shows up again and again, as extended family size, as Neolithic village size, as religious community (e.g., the Hutterites) size, as the Mormon trekking groups, as the size of !Kung San communities in the Kalahari, as business unit size for rapid flow of information and market agility. Business consultant Charles Handy, summarizes some of this latter information, pointing out Bill Gates' strong preference for business units at Microsoft not to exceed 200 people.⁴² Biologist Dunbar was of course familiar with the frequency with which this "magic number" crops up in military organization. He comments:

At this size (150), orders can be implemented and unruly behaviour controlled on the basis of personal loyalties and direct man-to-man contacts. With larger groups, this becomes impossible. Loyalties are no longer man to man, but have to be displaced to the more nebulous and less inspiring concepts...; orders are no longer taken on trust from known individuals, but must be issued by formally created 'ranks' that establish an individual's entitlement to respect....At the company level, word of mouth continues to be sufficient because everyone knows who everyone is – or at least, they know someone who can vouch for everyone else.⁴³

Nested within this "natural" community of 150, are smaller group sizes, such as the number representing all the adult males in the whole Upper Paleolithic band, the whole of which included women and children. This group was probably about the size of a platoon. Also about the size of a platoon is the typical size of overnight camps of modern hunter-gatherers. Going smaller still, we do not know the size of the teams in the Upper Paleolithic that our ancestors formed up for hunting. These smaller units also may have left its neurological footprints in our social processing of smaller groups, whether the size of scout-sniper teams, fire teams, or squads. We will probably never know any of these fine details of our ancestors' social units, because the fossil record is so sparse.

However, the number 12 ± 3 crops up over and over. If people are asked to list the names of everyone whose death tomorrow would cause real grief, these lists consistently count up to 11 or 12.

A sober and sincere question that I have been asked when I say that the single most important preventive psychiatry move for the military is to

⁴¹ Robin, Dunbar, *Grooming, Gossip, and the Evolution of Language*, Cambridge, MA: Harvard University Press, 1996, pp 55-79, 112-113.

⁴² C. Handy, *The Age of Paradox*. Boston, MA: Harvard Business School Press, 1995. p 141.

⁴³ Dunbar, *op. Cit.* p. 76.

keep people together is this: “We are training people to go to war, and in war people die. Wouldn’t the grief of Marines who are kept together and get really tight with each other be that much greater?” My answer is, “Yes, the pain is greater, but that pain is not the same as permanent injury, so long as the surviving Marines in the unit can communalize their grief, *together*.” And if given the time, I would point out that tightly bonded units form better and thus there are fewer deaths to mourn, and if they have been kept together and trained together so that they develop high *unit skills* there are even fewer deaths.

Asking people (in different studies) to list the friends or relations they contact at least once a month, they list 10 to 15. This number crops up again and again when we look at sports teams, government inner cabinets, juries, and of course the Apostles and sons of Jacob. No more than four people is apparently the upper limit for a stable conversation group, which keeps the attention of all members and does not break up into dyads and sub-groups.⁴⁴

The *largest* social number that our brain hardware seems to support without special training is in the 1,500-2,000 range. This number emerges in studies of the number of people whose faces you can put names to. However, except for the rare virtuoso, even this takes considerable time and focused attention to pull it off in a new situation. Many battalion commanders aim to know the name of every Marine in their command, and many succeed. General Al Gray has a prodigious memory for names, and has said he set himself the goal of speaking to every single Marine personally during his Commandancy. These are also examples of the relationship of organizational “height” to the breadth of or distance to the social horizon, which I shall discuss below.

The explosive evolutionary brain growth that culminated in our cognitive capacity to use language and the emotional capacity to feel identification with complete strangers broke us out of the constraint of the band of 150. This made possible the *esprit de corps* of much larger formations, and the patriotism of whole nations numbering in the hundreds of millions. Cohesion developed in the up-to-company-size face-to-face unit can nest within this larger loyalty. But translation of the larger loyalty into effective fighting power is more erratic and unreliable than the bonding that develops when people go through hard training together in squad, platoon, and company. The DoD’s and services’ institutional preoccupation with larger organizations – battalion, brigade, division, corps – cannot repeal biology. As fine as it is, *esprit* is not cohesion.

C. How Tough, Frightening, Demanding, Socially Significant Applies a Multiplier to the Cumulative Effect of Time

Some Marine leaders have begun to speak informally of “cohesion events.” By this they mean those training experiences that predictably and noticeably increase the tightness of their units and the sense of pride that the Marines taking part in them have in their units

⁴⁴ This paragraph summarizes Dunbar *op. Cit.* pp 70-74, 76, 118-121, 151, 200-206.

and in being Marines. Mountain warfare training at Pickle Meadows and a Combined Arms Exercise (CAX) at 29 Palms are frequently mentioned as “cohesion events.” These events have several things in common. They eliminate activities and relationships that compete for the Marine’s attention and energy; they have a high degree of sensory novelty that activates the nervous system in various ways. But most important, they impose difficult and sometimes frightening tasks on the trainees, which they must get through together. While there may be conflict and flares of anger during these harsh and exhausting training exercises, the usual result is that Marines who go through them experience much more sense of belonging and mutual obligation – and affection – for the others in their unit than before the exercise. These events also create a *particular and personal* shared group history and a common language of group experience that seem inseparable from cohesion. They become the stuff of shared narrative.⁴⁵ I regard this shared tough-training narrative as similar in kind – if less intense – than the shared narratives of units that have been in combat together. These particular unit-training narratives parallel the absorption of the great stock of Marine Corps stories and collective memories are inseparable from *esprit*.

Mobilization of the body and mind for danger in active, cooperative interaction with others, and getting through it to the other side with the same people, seems to activate some primeval mechanism of human attachment. I shall return below (“The Interaction of Cohesion and Training”) to this theme of the impact of perceived danger on learning and bonding.

D. Familiarity and Cohesion Increase Only When “Within the Social Horizon”

Because of the widespread blurring of cohesion and *esprit* in people’s minds, I repeat: cohesion, is a face-to-face phenomenon – it cannot arise between people who have never spent time together. *Esprit* can and does link strangers, but cohesion – no. This is not an empty trick of word definitions – cohesion and *esprit* are independent phenomena that can nest within and reinforce one another or collide and potentially destroy each other.

However, even among people who might be said to have “been together in the same place, at the same time, doing the same thing” familiarity and cohesion only increase and strengthen for those who lie “within the social horizon.” I appeal here to the universal human experience that in a new and strange place, with people one has never met, a great many people are *not noticed* at first. A new Marine Boot initially does not have the cognitive resources to take in the recruits at the other end of the squad bay. So even if common sense tells us that these recruits are in the “same” place, at the “same” time, doing the “same” thing in the first week or so, the new recruit’s social and psychological horizon does not yet extend as far as the other end of the bay, maybe no further than the Drill Instructors (DIs).

So at the risk of belaboring the obvious, marching in a parade with 50,000 other service members may qualify as “being in the same place at the same time doing the same thing,”

⁴⁵ If not given positive, interesting, strengthening challenges and leadership, the “boys in the barracks” will construct shared narratives from drinking, drugging, and fighting.

the social distance is too great in such a large number. They are invisible, “over the horizon.”

The distance to the social horizon is thus something that has to be determined by talking to the people in the situation, watching their behavior, and making cautious generalizations. It definitely cannot be judged from a position of godlike detachment or created by administrative fiat.⁴⁶ Even with a lot of time to do it, the human brain has trouble processing social connection when the number of face-to-face relationships exceeds 100-200 people, about the size of a company.

I would like to point out that the MCTFS personnel data system only reliably captures assignment data at the level of the battalion – an outfit considerably larger than the probable size of the largest “natural” face-to-face group.

E. How Far is the Social Horizon?

Much of what is important in this study is simultaneously obvious and invisible. When you are young, a stranger in a new and daunting situation, such as Boot Camp, it takes time to see further, socially and emotionally, than the recruit in the next bunk and the Drill Instructors. As time passes, the whole Boot Camp platoon begins to take on a meaningful cognitive and emotional existence. By the end of Boot Camp, the “social horizon” – the furthest social point at which someone is psychologically real – stops at the edge of the platoon. The fact that this platoon belongs organizationally to a company is irrelevant. A member of another recruit platoon, company, or battalion might as well be on the moon. Two recruits who were in the same company, but different platoons, might be thought to “be in the same place, at the same time, doing the same thing,” but they lie invisible beyond each other’s social horizon.

Once a junior enlisted Marine gets to the Fleet, the distance to his social horizon temporarily shrinks again from platoon to squad, but during the first year or so in a battalion the horizon certainly extends again as far as the platoon.

⁴⁶ The “Measure of Effectiveness” for the “Stability Objective” of Marine Corps Order 3500.28, MARINE CORP UNIT COHESION PROGRAM STANDARD OPERATING PROCEDURES, stipulates the following Measure of Effectiveness (MOE):

- (1) MOE. The percentage of Marines who remain in the same unit (keep the vagueness of this term in mind!) for their entire first enlistment term.
- (2) Data. For each cohesive assignment, ... Manpower Management (MM) will provide ... an electronic file containing each Marine’s (identifying information)...and the MCC (Monitored Command Code, in the case of infantry battalions, the whole battalion has one V-code MCC) of the unit to which they are assigned. Then, prior to each EAS window, Dir, MM will compare this (sic) archived data to the current Headquarters Master File...in order to determine how many Marines from the original “fill” have completed their first tour in the unit to which they were assigned.

It is plain that in this MOE stability in a *battalion* is the stability to be sought and measured, that moves within the battalion are considered irrelevant in this MOE.

In my field interviews with cohesion Marines who had been in the battalion more than two years and who were now lance corporals or corporals, their horizon had become broader still. With one exception (who said it was his squad) they said that the “furthest they could see someone they identified as familiar and ‘in my unit’” was the company. None of them said the battalion. In a certain sense the metaphor of the distance to the social horizon behaves just like the distance to the physical horizon – how far you can see depends on how high up you are.

It is probably fair to say that two first-term infantry Marines who belong to different companies in the same battalion are invisible to each other, beyond each Marine’s social horizon.

I have explained so far that social bonding in face-to-face units confers some protection against psychological injury (see Annex 1 “Preventing Psychological and Moral Injury in Military Service”) and directly increases fighting power by reducing both external and internal friction in military operations. I turn now to two *indirect* ways that cohesion increases fighting power – its facilitation of training and its synergism with leadership.

IV. Interaction of Cohesion with Training

Creation of cohesion is an ancient social technology, so much so that the military training and the creation of cohesion and *esprit* have been considered synonymous with military training, as though military skills and knowledge were somehow self-evident once loyalty and motivation were in place.

Military services, like families, are institutions that create a whole world. Both attempt to implant respect, loyalty, love, affirmation, gratitude, and obedience in the new member. The following features are common to both of these world-making institutions, whether the new member experiences them as benign or malevolent:

- Barriers to leaving
- Control of body and bodily functions
- What and when to eat
- When, where, how much to sleep
- Manipulation of body form (what to wear, body weight, haircut, tattooing, patches, emblems)
- Marching to music, singing and chanting in unison, cadence
- When and where to urinate and defecate
- No privacy of bodily functions
- Prolonged daily contact with power-holder in the group
- Combination of enticement, force, intimidation
- Power-holder as source of small rewards, comfort, approval
- Inconsistent, unpredictable, capricious, enforcement of rules
- Monopolization of communication, resources, control
- Secrecy regarding some activities and events
- No alternative to seeing world through power-holder's eyes
- Required repetition of buzz words, songs, slogans, clichés, even if inwardly disbelieved, rejected

Apply this list to the relationship between recruits and their drill instructors and to the relationship between small children and their parents. The fit to both is uncomfortably close. There is a definite suggestion of something sinister in this description. The uncanny, slightly ominous quality comes from the emanation of absolute power that the list embodies, even if that power has never been abused for personal gain, and even if training (or child rearing) has never gone over the line into torture.

A. Cohesion as a training multiplier

1. Cohesion enables fast cumulative, progressive training

I have already cited above General Starry's gloomy and sweeping assertion that all learning stops when personnel turbulence exceeds 20% per quarter. The converse – that

personnel stability facilitates learning is well attested in the WRAIR field evaluations of the Army's COHORT program in the 1980's. Here is the WRAIR summary of what happened in the first year of an all COHORT light infantry division:

During the first year, unit leaders enjoyed high credibility among all ranks. Officers, NCOs, and first-term soldiers appeared to share key ideas. They agreed on their mission to train for combat. Soldiers valued compliments by their commanders as an accurate measure of training progress. Commanders reported the training accomplishments of their units with pride. The commander of a newly formed infantry battalion observed, "When our battalion finished squad Army Training Evaluation Program (ARTEPs), it was better prepared for combat than the best units I had seen at Fort Campbell just a few years ago." Another battalion commander remarked "*We reached the skill level of a conventional unit in 60-90 days and just kept going up.*"...One infantry battalion went from activation through Company ARTEPs in only 90 days. An artillery battery completed its ARTEP within 67 days. Soldiers in another battalion earned 135 Expert Infantryman Badges within nine months of activation. Artillery sections achieved a response time of 30 seconds from receipt of a request for fire to getting rounds on the way.⁴⁷

The stereotype of the average junior enlisted service member as bored, negativistic, oppositional, having to be goaded forward in everything is thus *not* a product of human nature, but apparently a product of our policies and practices. And regrettably, due in part to leadership failures of a distinctive kind (see below under the interaction of cohesion and leadership), as well as all-to-common and familiar leadership failures, the rising trajectory did not continue in all units.

The "1st Pump" junior enlisted Marine "squads",⁴⁸ whom I surveyed and interviewed responded to the interview and survey much like the first-year COHORT soldiers studied by WRAIR. Here are my comments on one such squad along with a tabulation of their cohesion questionnaire responses in comparison to the average responses of Army enlisted men during the COHORT era:⁴⁹

These Marines as a group were enthusiastic and felt they were learning something new and getting stronger every day in Marine fighting skills. They felt their time was being well used by those training them and that their officers and NCOs know their stuff. Their survey responses were generally positive, with 8 of 12 saying that what they were doing in the Marine Corps was what they had come for (none

⁴⁷ F.R. Kirkland et al. "Unit Manning System Field Evaluation: Technical Report No. 5" Washington, D.C.: Walter Reed Army Institute of Research Division of Neuropsychiatry Department of Military Psychiatry, 1987. Pp. 23f.

⁴⁸ See my site visit report for the explanation of why I put quotation marks around the word "squad."

⁴⁹ For full explanation of these interviews and surveys, see my site visit report in the Appendix B.

choosing the unqualified negative response), 8 of 12 and 6 of 12 endorsing without qualification that their NCOs and officers respectively knew what they were doing, with again none endorsing the negative choice.

When I asked them to use their imagination about what it would be like to go to war with other Marines trained just as well as the men in the room, but who joined their squad just before a fight – the response was a resounding endorsement of going to war with people they know. On the survey 8 of 12 said they would rather go to war with this specific group of Marines than with another.

Calculated as an average per person, this squad scored +.67 in favor of going to war with this group and not another. (The scale runs from +1.0 to -1.0 from perfect unanimity in favor to perfect unanimity against.) For comparison, calculated the same way, the average score for the Army VII Corps in 1980 was +.47.

**Table E-5: Cohesion Questionnaire Response Averages By Item:
A/X 1st Pump and Army COHORT**

Item	Average	
	A/X 1st PUMP	ARMY
1. Like unit?	1.00	0.13
2. Like guys?	0.80	0.28
3. Who spend time with?	0.00	0.03
4. Races get along?	0.80	0.01
5. Squad leader after hours?	-0.40	-0.23
6. Like work?	0.80	0.59
7. Who for pers probs?	0.60	0.62
8. Lend money?	0.80	0.85
9. Officers seem to know stuff?	0.80	0.85
10. Plt Sgt talk to you?	0.80	0.56
11. Plt Cdr talk to you?	0.20	-0.09
12. Co Cdr talk to you?	0.20	-0.09
13. NCOs seem to know stuff?	1.00	0.48
14. Go to war w/ this or other?	0.80	0.47
TOTAL	8.20	3.91

The comparison of scores from Marines in their first year of service with Soldiers in all kinds of unit and anywhere in their terms of enlistment almost certainly gives an unduly bleak picture of the Army. Soldiers generally feel very good about their first year, with soldiers in COHORT endorsing more positive responses than those in standard individual replacement units, but not by an enormous amount. Had these first year Marine scores been put up against first year Soldiers, the disparity would probably have been less dramatic.

When we look at the scores for the junior enlisted Marines who had been in the fleet since the cohesion personnel fill before the most recent one, we see the disparity narrow considerably for one group, but hardly at all for the other.

**Table E-6: Cohesion Questionnaire Response Averages by Item:
“2d Pump” Teamed Marines and Army COHORT**

Item	Average		
	A/X-2d PUMP	B/Y-2d PUMP	ARMY
1. Like unit?	0.83	-0.13	0.13
2. Like guys?	0.83	0.56	0.28
3. Who spend time with?	0.17	0.38	0.03
4. Races get along?	1.00	0.81	0.01
5. Squad leader after hours?	0.83	0.31	-0.23
6. Like work?	0.33	0.00	0.59
7. Who for pers probs?	0.67	0.88	0.62
8. Lend money?	1.00	0.75	0.85
9. Officers seem to know stuff?	1.00	-0.13	0.56
10. Plt Sgt talk to you?	0.83	0.56	0.39
11. Plt Cdr talk to you?	-0.17	-0.06	0.08
12. Co Cdr talk to you?	-0.83	-0.38	-0.09
13. NCOs seem to know stuff?	0.33	0.38	0.48
14. Go to war w/ this or other?	0.67	0.25	0.47
TOTAL	7.50	4.19	3.91

I hesitate to make any sweeping statements on the basis of these data for several reasons: First, is that they are obviously a very small sample of convenience. Second, and more important, they are marred from the start by miscommunication through a long chain of intermediaries between myself and the those who assembled the “squads.” These methodological issues are fully discussed in my site visit report in Appendix B.

The two “squads” of “2d Pump Teamed Marines” were like night and day from one another. This disparity is reflected in their survey scores.

One group, with cohesion scores essentially at the Army average level, could have been sent by Central Casting for the stereotype film role of negativistic, apathetic, bored, resistant infantrymen. They were negative about practically everything I asked. They were bored, doubted the competence of both their officers and NCOs; they were no longer learning anything new. Four said they hated their unit and only two said they liked it. They do *not* feel they are doing what they signed up to do. Only 3 of 16 endorsed a positive response to this global how do you like your work question. Three said they hated it and the remaining 10 endorsed the middle response.

When I asked them if there had ever been any time in the last 2½ years that had gotten them interested, they said that yes, the CAX was good and that the training for the Marine Expeditionary Unit (MEU) and the float itself were good and then the one force-on-force exercise that they had done. But now they were preparing for a Unit Deployment Program (UDP) in Okinawa which would, in their view be a complete let-down, that everything since their return from the float had been boring and devoid of challenge or growth. At this point they were beginning to get interested in the subject matter and speculated that maybe they had had bad luck in the *sequence* of training and deployments. They thought that if they prepared first for deployment to Okinawa and then went to CAX and culminated with a float that they would now be just as full of enthusiasm as the kids who just got there. However, it was clear that they no longer felt that they were growing stronger. It is hard to imagine that these Marines will be magnetic, unofficial recruiters in their neighborhoods.

The other “squad,” was a much smaller group, all of whom were corporals or lance corporals. Without qualification, they positively supported the Unit Cohesion Program:

- “You’re not alone.”
- They felt certain that in a real fight “it would make a *big* difference” that they knew and trusted the other Marines in the squad.

I asked about the problem of being placed in authority over buddies they had been with, perhaps since the first day of Boot Camp:

- “At first it’s hard, but once you get past that it’s *so* much better, because you *know* these guys.”
- “Now in leadership roles it means more....A lot easier to get things done.”
- “It’s easier to lead a cohesive squad.”
- “Knowing and trusting is an asset.”

I asked them to try to imagine that they were heading into a hard fight in two alternative hypothetical situations: They had stayed together, and trained together, and various losses had brought their squad of 13 down to 9 – would they prefer to go into the fight with just those nine, or with those nine plus four equally well-trained Marines they had never met

before? They were unanimous in their preference for not having to figure out the newcomers.

I asked them to try to use a metaphor I would provide: the distance of the social horizon. They all said they knew what a metaphor was. I asked them, how far is your social horizon now? I illustrated that at Boot Camp the only people who were real, were the recruits in your own platoon, sometimes only the guy in the next bunk, so in Boot Camp, the furthest you could “see” was to the edges of your platoon – that’s how far away your social horizon was then. Other recruits in the “series” could just as well be on the moon. They were almost unanimous that now the furthest visible point on their horizon was their company. “Battalion is theoretical – you might *never* see them.” (One Marine said his social horizon was his squad. Unfortunately, I did not ask him for clarification.)

The tone and mood of this group was every bit as enthusiastic and positive as either of the 1st pump “squads.” There was not a trace of the bored negativism of the other 2d pump “squad.” They seemed challenged by their new leadership responsibilities and to be enjoying the stretch this gave them. These young Marines were being stretched and they obviously loved it. It is hard to imagine that any young person in their neighborhoods, upon meeting them, would not say to themselves: “I want what he’s got.”

2. With Competent Leadership, Cohesion Multiplies Motivation to Learn

The WRAIR account continues:

The spontaneous motivation of the first-term soldiers played an important role in their achievements during the first year. Senior commanders and NCOs were unanimous in their opinion that their privates were exceptionally intelligent (they were *not*—they were ordinary recruits, neither volunteers nor specially selected), eager to learn, interested in the Army, and dedicated to the light infantry mission. One NCO said, “These young soldiers will do anything we ask of them. So you have to be careful...” Very few leaders understood as well as this sergeant that they were dealing with a new and unfamiliar phenomenon – soldiers who were self-motivated, who needed and wanted to be taught and guided, not driven. The history of the first two years of the four (light infantry) battalions evolved progressively into an account of clashes between the spontaneous motivation of the first-term soldiers and the motivation their leaders sought to impose on them.

WRAIR researchers noted that the belief and expectation that these Soldiers were part of each other’s future, that they would go to war together, had a powerful effect on how they supported each other’s learning. They reported the development of spontaneous models of cooperative learning, with more skilled and faster learning Soldiers working with the squad members who were not “getting it.” This sense of mutual responsibility for each

other's learning

...was continually in evidence even when they were exhausted. In one squad when the soldiers were extremely fatigued, and half the group were sleeping, the squad leader came around to show the troops how to sight in final protective fires. In each position the soldier at work woke up his foxhole mate. "Hey Sid, you wanna see this. The Sarge is showing us something new," and the sleeping soldier invariably said, "Yeah, yeah," and roused himself.⁵⁰

B. Training Creates Cohesion BUT Cohesion Facilitates Training

I have already drawn attention to the familiar circularity, that people who start out as complete strangers from random backgrounds can be welded into a tight military unit by excellent training, AND that the more cohesive the unit the better able they are to learn and to acquire high-level military skills. Here I want to get to a deeper level to see at least part of the engine that makes this circularity run. To do this, I must introduce a piece of psychological jargon: state-dependent learning. This term puts a name on a phenomenon well known in martial arts and self-defense training circles – that a highly proficient and accomplished martial arts practitioner may freeze helplessly when criminally attacked on the street. His training, which was acquired under extremely safe, civil, even tranquil circumstances becomes *unavailable* when his physiological state is one of intense fear and rage at being criminally assaulted. It is as though the training is completely forgotten. In fact it is not forgotten, it is simply unavailable. In order for the skill to be available in the new physiological state, it must be practiced when the body is in the same physiological state in which the Marine will actually have to use the skill. To put it bluntly: if military training does not *scare* the troops being trained it runs the risk of stealing the lives of those troops in a real fight. Their military skills may be unavailable to them. This puts a permanent ethical strain on military leaders who train troops to fight, because to scare these troops during training probably means that there have to be elements of *real danger* in the training. The presence of *real danger* means that over time there will be *real* training casualties. These *present* injuries and deaths have to be justified in the leaders' own consciences and to their civilian bosses in terms of *future* lives saved in battle. Some of this strain can be removed by simulated danger, such as the sort created by ropes courses, but I personally doubt that this can ever entirely remove the element of real danger from *effective* military training. I believe that sometimes the very correct emphasis that is placed on "realistic" training is simply a code-word or rhetorical package for the physiological truth of state-dependent learning.

1. Cohesion Enables State-Dependent Training

Just as social recognition, support, belonging – i.e., cohesion – strengthens people to face danger created in a real fight by a human enemy, cohesion strengthens troops to face the frightening aspects of realistic military training. I have said that the body codes social safety as physical safety. While this is a powerful effect, it does not completely obliterate

⁵⁰ FR Kirkland, *ibid.* p. 15.

fear and prevent state-dependent learning from occurring.

2. Tough, State-Dependent, Progressive Training Multiplies the Time / Familiarity Effect on Cohesion

Going through tough, state-dependent learning with a particular group of people who have supported you psychologically and practically through the danger, powerfully bonds the group together. This is primeval, and visceral, and has little to do with rational calculation on anyone's part. The physiological details of this are not known, but probably will be – eventually. I believe that this is the most significant reality behind the custom of referring to Boot Camp, CAXs, Marine Expeditionary Unit (Special Operations Capable) MEU (SOC) workup, and mountain training as “cohesion events” that bond people to each other far in excess of the number of calendar days that these events take up.

C. The Dark Side of State-Dependent Learning – Training and Torture

Because we deal here with phenomena of nature that are neither good nor bad in themselves, it should come as no surprise that state-dependent learning has a dark side. The attempt to obtain state-dependent learning, to bond troops to each other by putting them through harsh and frightening exercises together can easily go over the line into torture. There is no infallible test to say, “This is training, that is torture,” but the list that follows gives a cumulative picture of features added to the bulleted list provided in the introduction to this section (Section IV). If all of the list below are present, we are unmistakably in the territory of torture. If only one or two, *maybe* we are dealing with particularly fierce but legitimate training, but warning flags are up and must be heeded.

- Terror and helplessness
- Loss of communication with all others outside
- Conviction that others have forgotten or betrayed the Marine
- Renunciation, destruction of symbolic tokens of connection to others
- Inconsistent, unpredictable, capricious, and *violent* enforcement of rules
- Threats to close comrades
- Debilitation by sleep deprivation, starvation, exposure, drugs, alcohol
- Paradoxical attachment to military as savior
- Violation of own moral principles
- Participation in sacrifice, victimization of others
- Participation in immoral, disgusting, illegal practices
- Betrayal of own basic human attachments⁵¹

Before the reader dismisses this discussion of training and torture as something that “could never happen here,” and anyway is only directed at enemies of the state, when it

⁵¹ This and the previous list on Page 28, are culled from Judith Lewis Herman, *Trauma and Recovery*, New York, NY: Basic Books, 1992. Chapter 4.

happens “elsewhere,” I want to bring out the following: Training practices that *are* torture have cropped up throughout the world (and probably through the ages) in the context of training *elite* military and police formations – mostly, but not always, in tyrannical states, and mostly, but not always, where the training and missions of the elite formations are covered by state secrecy.⁵² Hazing can be seen as an unofficial version of this same training process. Most people readily recognize that the worst hazing is torture.

The time in recent memory when Marine recruit training flirted with torture was during the Vietnam War. I believe that this was driven by a pervasive institutional shame at the fact that a number of Marines captured during the Korean War not only broke under torture but refused repatriation. This led to an unofficial heightening of the state-dependent component in training, crossing the line at times into torture, with the intent of preventing a repetition of this shame.

D. Re-training is an *Always* Thing

Military training *always* contains a significant component of re-training. This is inevitable because combat (actual or simulated) is a *practice*, like sports, surgery, or music, not a science.⁵³ Its skills are perishable and have to be constantly retrained. I noted above the results of studies of the decay and restoration of the tank crew skills associated with tank gunnery, that showed that retraining to standard happened much faster when done in the same tank crew that the skills were originally trained up in, compared to retraining in a group of strangers who on paper were just as proficient as the original crew. This factor alone accounts for a chunk of the learning gain realized by stable units. Whatever part of the average training day is re-training, increased efficiency in retraining frees up the time saved for new training. Similarly, if newly assigned Marines have to be “brought up to speed” during some part of this training day, reducing the drain caused by “Newbies” also increases available training time. The arithmetic is simple and inescapable.

⁵² See R.D. Crelinsten and A.P. Schmidt, *The Politics of Pain: Torturers and Their Masters*, Boulder: Westview Press, 1995.

⁵³ A book with great, but to my knowledge unrecognized relevance to the profession of arms is *The Logic of Practice*, by French anthropologist Pierre Bourdieu, Translated by R. Nice, Stanford: Stanford University Press, 1980.

If

T = Total training time available

N = training time available for learning New skills

R = the amount of time spent Retraining

B = the amount of time spent Bringing newly assigned Marines up to speed

f = the familiarity retraining efficiency divisor ($f \geq 1.0$)

o = the time it Originally takes to learn a given unit skill or technique

Then

$$N = T - R - B$$

where

$$R = o/f$$

The **R** term will never be zero, but can be reduced considerably by keeping stable units. The **B** term can be zero in a particular stable unit, but the *average* value of **B** can never be zero because of attrition due to injuries, legal problems, family emergencies, etc., if any attrited Marines are replaced.

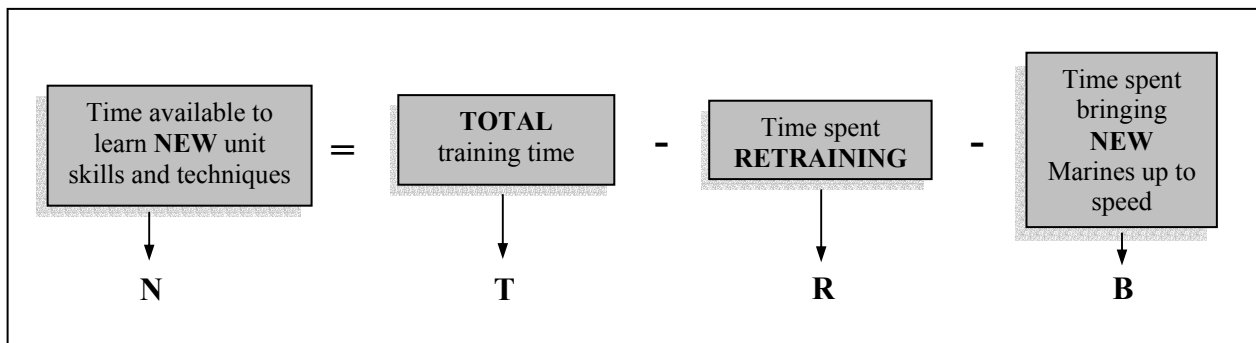


Figure E-1: The Iron Equation of Progressive Unit Training

This arithmetic is painfully simple. This is not rocket science. Our failure to reap the benefits of this arithmetic is self-inflicted. *“We reached the skill level of a conventional unit in 60-90 days and just kept going up.”* – Army COHORT unit leader.

E. Why Excellent Training Speeds the OODA Loop

As noted above, if training has been realistic, prolonged, progressive, and state-dependent, all echelons enjoy well-founded *trust in their sensory perceptions*. They have more cognitive resources to attend to the enemy and to the environment in which both self and enemy are operating and which provides the opportunity to evade the enemy’s

blows and to land one's own. Richly realistic force-on-force free-play training teaches all ranks to rearrange data quickly and flexibly into alternate interpretations when faced with the real thing. Refer to Table E-3 for how trust lubricates the OODA cycle and frees resources for every step in it (i.e., reduces the internal component of "friction").

F. Success Effects – Unit Pride

The positive feedback between successful accomplishments, and unit pride is a military commonplace, and needs little comment. At all levels, from squads to whole defense establishments, there is the ever-present danger of complacency and loss of adaptability. This can be a vicious cycle (a kind of feedback loop, also) where success sanctifies "the way we do things here," whether that way was actually responsible for the success or not, and whether that way is a good fit or a terrible fit to the concrete situation facing the military entity.

V. Interaction of Cohesion and Leadership

As tempting as it is, I shall refrain from saying everything I think needs to be said about leadership and stick to – most of the time at least – the ways that cohesion and *esprit* interact with leadership.

I hold the view – which I cannot prove scientifically – that attachment to a leader draws on the same biological mechanisms that attachment to a peer group does. However, the leader’s position of social power and institutional prestige (tapping biologically into very old social dominance mechanisms), puts these phenomena through a loudspeaker, as it were, and amplifies them.⁵⁴ So for example, the sense of physical safety that comes from group membership and esteem, the contagiousness of confidence and fortitude, can be conferred by an esteemed leader individually. The same is true of the impact of the leader’s negative reactions. The leader’s lack of confidence, indifference, condemnation, or malevolence hit the same way, but stronger, as the same coming from peers, arousing shame and fear. This is why unit (horizontal) cohesion and vertical cohesion are to some degree substitutable – arithmetically additive.

However, American peacetime forces have on the average had so much personnel turbulence and the emphasis on individuals and dyadic (pairwise) relationships so strong in the general culture, that the development of unit cohesion can profoundly unsettle inexperienced leaders. It is generally true that there are no *private* wrongs by a military leader against a member of the unit over which he has authority. But when a unit is cohesive, the negative impact of a leader’s ethical or professional failures is *greatly amplified*. The WRAIR field evaluators of COHORT found this repeatedly:

The privates’...tight bonding ...(made) them sensitive to the welfare of each other. Mistreatment of one soldier by a superior brought on the collective hostility of all the privates:

(Quoting one respondent) Sergeant Pike of 3rd Squad is a lying sack of shit. When Smitty was acting squad leader his squad was attached to Pike’s. Pike told him to set up an outpost on a knoll. The battalion commander didn’t like it, and Pike told him Smitty had picked the position contrary to orders. So Smitty lost his acting corporal stripes and got a rehab transfer. Pike smells like a rose. No one trusts Pike any more, and no one will give him the time of day.⁵⁵

The Marine officer reading this would err to complacently pass over this illustration as not relevant, because of the low rank, NCO status, and its Army background. This same leadership failure of forgetting that *everyone is always watching the trustworthiness of the leader* can be seen at all levels in all services. The more cohesive the unit is the more powerful this “fishbowl factor” is. This applies at every echelon.

⁵⁴ See “Biological Significance of Social Trust” in Annex 3.

⁵⁵ F.R. Kirkland, *ibid.* p 15.

If this “downside” of the interaction of cohesion and leadership were the only thing in play, senior leaders might well reason that, since we are all fallible, and since cohesion amplifies everything so much, why work on policies to promote cohesion? Cumulatively, they might conclude, it just weakens the authority of the chain of command.

However, the amplification works *both* ways. If the leader has demonstrated his competence, integrity, and commitment to his subordinates there is no limit to what they will try to do for him. The love and self-sacrifice and prodigies of effort that cohesive units will lavish on a respected leader are far in advance of what the same leader could win from an atomized unit of strangers.

One group of lieutenants I interviewed during site visits appeared to be only experiencing the “downside:”

.... (A)s a group, (these lieutenants) projected an angry, dissatisfied, overstretched mood. They were ready and willing to blame all of their troubles on the Unit Cohesion Program, which they presented as the enemy of good leadership, discipline, and performance at every level. These lieutenants appeared deeply resentful that their experience of leadership was not what they expected or wanted. They did not appear to be enjoying their platoons and life with the enlisted Marines in them. If any of these lieutenants felt genuine affection for their Marines, none of them was about to admit it – at least not in the group dynamic going in the room when the interview was held.

Their specific criticisms were:

- Coming from similar background and with an already formed support network teams of Marines resist all authority.
- Teamed (i.e., formed into cohesion teams at SOI) Marines become lazy and complacent.
- After a Marine has been in a couple years and it’s time to make corporal, the Unit Cohesion Program prevents this, because “people won’t listen to an old buddy-buddy.”
- “You have to expose them to different people, and take them out of their comfort zone.”
- Several blamed the poor quality of their experience as platoon commanders on the change in the ecology of social power that the Unit Cohesion Program brings about. “They come here with their groups already formed—they don’t have to listen!” The lieutenants seemed to believe that if they had more power or more authority they would like their Marines more.
- “I may have to order someone to his death and don’t want to have to worry about them having a best friend.”

Overall, these lieutenants projected the heartbreaking picture of leaders who felt like they're drowning, and trying to find explanations for it. The Marine Corps cannot control what ideas they come to officer training with, but can certainly influence the ideas they get in The Basic School (TBS) and Infantry Officer Course (IOC). If they come to the Fleet believing that their authority rests on their rank, rather than on what they have to contribute in competence and in taking care of their Marines, they will continue to have a bad experience that may never get corrected. I greatly fear that the proposed – and to my mind grossly misnamed – “Vertical Cohesion Program” for lieutenants will rotate them so fast from platoon to platoon that they will *never* have the possibility of a positive experience of troop leadership.

The more experienced and confident platoon sergeants for the same platoons as these lieutenants had experienced some of the “upside.” As a group, these sergeants were very *positive* about the Unit Cohesion Program, making remarks like the following:

- “Didn’t have to convince them (the privates) that they had to work together, and (we) could get on to the training they need.” And,
- “Did our work for us before they even arrived.”

Failure to harmonize officer career patterns and incentives with COHORT was the single most important factor in killing it. COHORT did not fail; it was killed. Dr. Faris Kirkland’s summary of the reasons is sobering, because many of the same objections are being raised against the Unit Cohesion Program.

Commanders' Complaints - Did not like having one battalion out of action for 4 months (had well founded fear that they didn’t look as good on paper as peer commanders of units that were “always C-1”); COHORT units perceived as getting preferential priority for resources.

Policy Problems - *Required a higher level of professional skill than the training system was prepared to provide*; Career equity for officers and NCOs compromised (e.g., missed out on the career-optimum scheduling of career progression schools, i.e., went to the schools, but later).

Funding and Strength - When the Army was authorized 85% of required strength, manning COHORT units at 95% meant that other units would be at 75%; COHORT said to be more expensive.

Complaints from the Personnel Community - Personnel programs based on the individual, not the unit; COHORT interrupted the smooth flow from recruiting command through training centers; computer programs not organized to have some units manned on a unit basis and others on an individual basis (all COHORT manning done by hand; no computer tools developed); cohesion nice to have but not important enough to warrant

disrupting existing personnel management procedures.⁵⁶

Not included in this account, possibly for reasons of institutional tact, was the overwhelming discomfort, sometimes flaring into naked hatred, that COHORT showed that many officers and NCOs were not professionally competent enough to lead cohesive units of self-motivated Soldiers. During the first year of a COHORT unit's life cycle, the unit leaders always had expertise far ahead of their troops, because one year was the maximum that any unit had ever trained together and cumulatively developed their skills. The Army training cycle was (and largely is again) one in which troops love their first year and find it fascinating, strengthening, and energizing, and then are required to repeat Freshman Year a second time and then a third time as new Soldiers are infused and units shuffled like decks of cards. Accretive, cumulative training never occurred before COHORT, except by administrative/historical accident or in a few elite formations. So neither officers nor NCOs were prepared.

Some COHORT leaders rose to the challenge, continually studied their profession, experimented, listened to their troops and subordinate leaders, and not only stayed a step ahead of their troops, but had fun doing it. Others fought back against the threat to their self-respect by bluffing, bullying, and otherwise acting defensively with their troops. Some leaders became habitually abusive under the pressure of leading beyond their competence.

If the Unit Cohesion Program or any of its successors are successful in permitting accretive, cumulative training in Marine units over a full two-year cycle, these units may outstrip the competence of platoon commanders fresh from IOC—even more so if the units are given the chance to develop beyond the 21st month in a battalion when the new “fill” comes. A much more patient and thorough study than I could conduct would be necessary to determine if this is already happening, in view of the bored, negativistic attitude of some Marines in their third and fourth years. Were the negative lieutenants and the negative junior enlisted infantrymen a match made in Hell?

⁵⁶ F.R. Kirkland Ph.D, “Cohesion, Competence, and COHORT,” Summary of COHORT history prepared at my request 15 November 1996. Emphasis added. The late Dr. Kirkland was the lead author and social scientist for most of the WRAIR Field Evaluation technical reports and sole author of a number of them, such as “Leading in Cohort Companies” 21 December 1987.

VI. Interaction of Cohesion with Robustness and Flexibility

There are several generic changes in the national / DoD-wide / Marine Corps environment that I shall address from the point of view of the robustness and flexibility of my own recommendations in the face of these changes.

A. Continued Peace and Prosperity, with Apparently Declining Threat and Increasing Recruiting and Retention Strain

I do not see myself as a universal expert. If I comment on recruiting and retention it is without the pretense of being a scholar of the subject.

Young adults often join military organizations in the hope of fulfilling fundamental needs to define their own character – that is their ideals, ambitions, and attachments – and to achieve a sense of effectiveness in the world. This is true both of young people from stable, socially integrated, loving families and young people with a history of neglect, abuse, family disintegration and community violence. In both instances, they need to find a trustworthy community, and – most important – to find trustworthy face-to-face power relationships. They have as yet little or no record of accomplishments to give them confidence that they *can* be effective. Firm discipline, high standards, the well-founded sense that someone competent is *paying attention*, are highly prized by young people because these feel like nourishment – they help the young person grow.

Because of economic changes, there *is* a pandemic of child neglect in all economic classes, and eventually these young people present themselves for military service. They come starving to define their ideals, ambitions, and attachments, not merely hungry to do so.

It is essential that the Marine Corps provide these junior enlisted Marines with direct leaders who are warrior leaders, not technical managers, who acquire enormous “expert power” because they *are* expert in small unit warfighting. To grow, these junior enlisted Marines need *armipit* leadership, not arm’s length leadership.

The Marine Corps has an established tradition of empowering the lowest echelon leaders, the corporals and the sergeants, after rigorously training and observing these Marines. Running counter to this Marine cultural tradition is the general armed forces management culture that has infiltrated the Marine Corps through its officer corps. In this management culture, if a lieutenant says to his boss, “I assigned Corporal So-and-So to that. I trust him to do it,” he will get slammed. When I speak of culture change, it’s change of the management culture that has infiltrated Marine culture.

When a troop leader knows his stuff, knows his people, and knows that his boss is dedicated to his success and will not abandon him – he has *confidence*. The young people who become Marine officers want to feel the growing strength of their character – ideals, ambitions, attachments, and the efficacy to advance them in the world – no less than the young people who serve as enlisted Marines do.

- *Knows his stuff* – Do TBS and IOC prepare the young lieutenant to be a life-long learner of the art of ground warfare? ready to learn from their NCOs? ready to learn from experimentation? ready to seek out mentoring wherever they can find it? Or do they create the illusion that the checklist school solution is the final and complete answer?
- *Knows his people* – Do we give our young lieutenants enough time with their platoons to get to know their people? Enough time to develop a warm heart for their subordinates and to protect them?
- *Knows that his boss is dedicated to his success, and will not abandon him* – Do our officer evaluation practices elevate fault-finding above mentoring, teaching, and supporting?

So in my view, the competitive advantage that the Marine Corps has in recruiting and retaining lies in the *heart*, not in the bank book. In a world with no superpower enemies and a growing, healthy economy, military service will be a niche labor market. Once basic-equity financial needs are met, competition will be on the basis of *satisfaction* and *love*.

The U.S. armed services underwent an uncontrolled personnel death spiral after World War I. We could be in the early stages of this after the end of the Cold War. In the officer ranks, I can foresee a very dangerous *perverse outcome* to the Army's current attempt to stanch the hemorrhage of company grade and mid-career field grade officers:

Also, beginning Oct. 1, all retiring service members must wait six months after submitting a request before leaving. "We used to work hard to get you retired in a week or two, if circumstances required it. Not under this regulation anymore," Gen. Ohle said.⁵⁷

The All-Volunteer Force has slowly and painfully lived down the 1960's image of the military service as a condition of captivity. I forecast that conscription-based instincts that lead the Army leadership to a coercive solution to their officer retention problems will lead to a crash in officer recruiting. This cannot be kept secret from the college students – indeed the Academy midshipmen – whom the Marine Corps seeks as officers. Generation X is *extremely* sensitive on the subject of coercion and I strongly urge that the Marine Corps reject coercive solutions to retention – and to maximally publicize its rejection of coercive solutions to retention.

B. Surprise

Rivers of ink are pouring down upon us on the subject of military innovation, forecasting future threats, "asymmetrical" threats, revolutions in this and that. The one thing we can say with certainty about future fights is that something about them will *surprise* us. The surprises may be technological, tactical, operational, strategic....

⁵⁷ "Officer shortage," Inside The Ring (column) By Bill Gertz and Rowan Scarborough, *Washington Times*, July 14, 2000.

A critical form of military innovation we will be called upon to engage in *is our response to surprise*: how quickly we can observe that something new is happening, how quickly we can interpret it, how quickly we can decide what to do, how quickly we can adapt and improvise existing technology and retrain ourselves to act. This is simply the OODA loop at an institutional level.

If the manning and training systems recommended here – which aim to create and sustain trust in all its dimensions – we can confidently expect that eyes, ears, and brains will be open toward the enemy at all echelons, confident that innovations by Marines in contact with the enemy will be noticed, whatever their rank or role, and that the organization will be agile enough to disseminate the discoveries quickly and clearly and to retrain.⁵⁸

C. Need to Build a Much Larger Force Quickly

Reports of the “end of history” are premature. It is extraordinarily improbable that in the next 50 years we will never have to expand quickly, to “mobilize,” probably with conscription.

I live in dread of the idea that the key force protection and fighting power multipliers – cohesion, leadership, training – will be regarded as a peacetime luxury of the all volunteer force to be jettisoned in favor of the “defaults” produced by management science in and after World War II. All of these principles apply as much or more so to a larger wartime force. The single most important thing is to *keep people together*.

If the Marine Corps fights the institutional fight now, in peacetime, to implant unit cohesion as an element of Marine Corps culture, and institutionally in DoD as a measure of readiness along side the inventory measures now used, there will be a chance to avoid the horror of “stripping” cohesive units to “fill” deploying units as was done repeatedly in WWII. This horror is better known by the slang “cannon fodder.” And the last-minute “filled” unit is often militarily *weaker* than the original cohesive but “understrength” unit.

So if we do not man, train, and deploy according to these principles in peacetime, there’s not a prayer that we’ll do it in a crisis.

⁵⁸ The historical example that I find most striking is the WWI operational surprise sprung on the Germans by massed tanks at Cambrai, causing panic and rout. In a few short months the Germans found and listened to sergeants who had witnessed successful techniques for defeating massed tanks, communicated these widely, and retrained the front line troops. The second time the British tried it, they were slaughtered. S. Biddle, W. Hinkle, and M. Fischerkeller, “Skill and Technology in Modern Warfare,” *Joint Force Quarterly*, Summer, 1999.

VII. Culture Change Needs to Be Led, Not Managed

Despite the appearance of books *Managing Change* and the like, for cultural change, an institution needs *leadership*. It needs management, too, but the two functions are different. In a very stable environment, where the institution is successful just doing what it has always done, the way it has always done it, management alone can suffice. The following table summarizes the differences between leadership and management:

Table E-7: The Differences Between Leadership and Management

	Leadership⁵⁹	Management
Broadest Function	Coping with change	Coping with complexity in a stable environment
Future-oriented activity	Setting direction (≠ long term planning!)	Planning, budgeting, allocating resources in accordance with plan
Organizational Activity	Aligning people	Organizing and staffing
Getting Results	Motivating and inspiring	Controlling and problem solving
Main incentives to others	Satisfying needs for achievement, sense of belonging, ability to live up to own ideals	Increased compensation, authority, institutional recognition. Avoiding criticism for failing to make the (planned) numbers
Communication pattern	Informal network; tireless repetition of vision	Follows organizational chart; formal articulation of mission statement is enough
Main (not exclusive!) teaching method	By example	By formal rules and policies, backed by punishment
Ensuring future results	Create culture of leadership	Select, train, promote, structure compensation to reproduce past successes

⁵⁹ J.P. Kotter, *On What Leaders Really Do*. Boston: Harvard Business School Press, 1999. Pp 52-65.

Table E-7: The Differences Between Leadership and Management (cont.)

Other Characteristics⁶⁰		
When get responsibility	Generally early, in '20s or '30s	Doled out in slowly increasing doses according to level in organizational chart
Most congenial organizational form	Decentralized, flat	Centralized, tall
Perspective	Outsider's or unconventional insider's	Insider's
Power base	Insider's	Insider's
Posture toward competing, incommensurable goods⁶¹	Willingly accepts	Denies, rejects, or minimizes
Posture towards uncertainty⁶²	Willingly accepts	Denies, rejects, or minimizes

Most of what's spoken of and written of as "leadership" in the U.S. armed forces is mostly management. However, military institutions *always* need leaders more than they need managers because struggle with a human adversary is intrinsically a world of change, uncertainty, incomplete and deceptive information.

The reader may be disappointed that we cannot offer a silver bullet, a clever "tweak" of some administrative structure that will bring a sudden easing of every care. Having said that, I want to suggest the following "tweaks" in Section VIII.

⁶⁰ Culled from Kotter, *op cit.* and J.P. Kotter and J.L. Heskett, *Corporate Culture and Performance*, New York, NY: Free Press, 1992.

⁶¹ Culled from Aristotle's *Rhetoric*.

⁶² Culled from Aristotle's *Rhetoric*.

VIII. Incremental Improvements to the Present System

I have been asked to make recommendations that can be put into practice in the real world, not in a utopian best-of-all-possible world. I take this to mean, recommendations that real senior leaders investing real energy, effort, and personal, political, and institutional capital can fight for with a plausible hope of success – if they are persuaded of their merits.

So, for example, I shall not recommend that the present Commandant of the Marine Corps be stabilized in his position for ten years, rather than the established four-year term. This would be a *most* beneficial thing, because stability of leadership vision and leadership conduct is a crucial element in bringing about institutional change. But it's not "real" in the current American context. Time and again, in discussion with the Army leaders who attempted personnel system change, such as General Edward "Shy" Meyer, General Donn Starry, Lieutenant General Bob Elton, Lieutenant General Richard Trefry, they have told me that renovation of the military manpower system is *a ten year job*, but that the leadership turns over so fast that it can't be done. They believe they tried and failed in part, because leader turnover is too fast.

What is real, and doable, is this, in this order:⁶³

- Assemble a powerful guiding coalition of current uniformed leaders, civilian DoD leaders, retired "wise men," members of Congress and their staff, military correspondents in the media, and other civilians with something to contribute. Develop fluid methods of bringing the group together to work as a team. Make the ten-year time horizon part of the guiding coalition's own group culture.
- Articulate the vision of what the military personnel system should be and do. Develop strategies to achieve it.
- Tirelessly communicate that vision in every setting, on every occasion, at every echelon inside and outside the Marine Corps. All members of the guiding coalitions teach the new behaviors by example in their own combat.
- Empower and train mid-career and junior leaders to act on the vision of how Americans come to, are initiated into, inhabit, and leave active and reserve service in the Marine Corps. Remove policy obstacles. Change systems and structures that obstruct. Encourage risk-taking at lower levels.
- Astutely select and plan for a noteworthy short-term success flowing from

⁶³ See J.P. Kotter, *On What Leaders Really Do*. Boston: Harvard Business School Press, 1999. Pp. 52-65.

the vision.⁶⁴ Publicize this success and link it to the vision. Recognize and reward people in and out of the Marine Corps at all levels who have contributed to the success and to the vision.

- Consolidate the changes in manpower concepts, policies, and practices by promoting and developing leaders who embody and understand the vision. Remove determined obstructionists from positions of effective obstruction. Reinvigorate the process of change by taking on parts left undone because they were considered too hard.
- Institutionalize the changed personnel system by ensuring leadership succession and development.

This is a real-world recommendation. It is a recommendation for a lot of hard work, risk-taking, and above all, prolonged struggle.

A. Keep the Present 21-month Reconstitution Model and Make it Work

1. Retain the “21-month fill” approach for infantry battalions, making incremental improvements.
2. Reduce within-battalion personnel turbulence to 10 percent per quarter or less (making allowances in the metric for the initial settling in of the new Marines). The point of this target is to make every officer and every NCO *think* about stability – not to introduce yet another blind manage-by-the-numbers benchmark or introduce another black-or-white set of “always / never” prescriptions. “Always” think about the effect of a decision on cohesion; “never” disrupt a Marine’s bonds of trust and familiarity for mere neatness in a column of numbers or appearances on the parade ground.
3. Get control of “Training, Exercise, and Employment Plan (TEEP)-madness” that currently makes even three consecutive months of cumulative training seem like the heavens have opened.
4. Re-balance the glamour and prestige of MEUs and UDPs by enriching the latter by making them truly challenging unit skill development venues with lots of free-play force on force. The advantage is that the units going to

⁶⁴ If my analysis is correct, and the Marine Corps does what’s needed, it seems likely to me that the disparity between the Marine Corps and the other services in recruiting and retention will widen so dramatically in the next few years, that this will be the short-term success that is needed. There is currently a DoD-wide sense of urgency on this subject, but if the Marine Corps allows the management science culture of economics to dictate how this urgency is packaged, investigated, acted upon, it will dissipate its own greatest competitive advantage.

If this is not a suitable choice, an additional step has to be added to the top of this list: **ESTABLISH A SENSE OF URGENCY**. In general, I’d say that there is urgency-fatigue in the armed services. If the Marine Corps has the good luck that it can design its short-term win around a sense of urgency created by others, so much the better.

MEUs are more combat capable, even if some of the MEU-specific skills are less efficiently transmitted from one cycle to the next than they are in all-MEU regiments.

5. Openly discuss and struggle through the competing goods represented in decisions about all-MEU regiments or not: Good – efficiently preserving skills and institutional procedures from MEU to MEU *versus* Good – prevention of predictable manpower wastage when hundreds of Marines become Expiration of Active Service (EAS) non-deployable due to externally driven perturbations of the deployment schedule (e.g., the Navy changes its ship schedule). The current system is like a mechanical system that has no tolerance at all in the gears and linkages. If *everything* is working *perfectly*, it hums along very smoothly and quietly, but the smallest amount of grit or the retardation of just one part can cause the whole mechanism to seize up and freeze tight. Openly discuss and assess the cost to *everyone* (not just the hair torn out and stomach lining eroded from the manpower monitors) of the brittleness of the current system.
6. Revisit and rediscuss the practice of assigning battalions to deployments based on EAS dates of the privates. This brings howls that “personnel driving operations!”
7. Severely limit large unit exercises which merely use lower echelons as training aids – endless riding in a bus is not training. As much as possible only assign higher-unit-skill units to large unit exercises, because they can actually derive training benefit *from* them and actively contribute *to* them.
8. Harmonize lieutenant and platoon sergeant assignments to the privates’ manning cycle. *Both* should be present for at least a 21-month training cycle, and *one or the other* should be present for the whole 42 months of a fill from SOI.
9. Install high quality unit training simulators on the vessels Marines use for MEUs, so that their minds continue to expand while on float, even in the Indian Ocean where there are fewer opportunities for combined exercises. Develop competitive wargames for the squad, platoon, and company level, and use them everywhere Marines are.
10. Use the 21-month reconstitution program as a way to generate the training capital that would be required to go to a longer “lifecycle” model.
11. Encourage short “mentor extensions” for junior NCOs at / near end of their enlistment – consistent success in recruiting such mentors is probably essential to the success of a “lifecycle” model, which has no simple way of growing corporals.

B. Plan transition to a “lifecycle” model sometime between five and ten years from now. The institutional, training efficiency, and combat effectiveness benefits are unmistakable – provided that the conditions for its success are present. These conditions do not currently exist, but can be created by making current 21-month reconstitution cycle work.

C. Problems with “Lifecycle” Proposal to Overcome:

1. How to grow corporals?
2. Politically costly choice between increasing end strength or eliminating the junior enlisted component of the drilling reserve.
3. Requires a not-yet-existing capital base of trainer competence – this capital takes time to create (cf. COHORT problem of cumulatively trained privates outstripping their sergeants / lieutenants).
4. Must be coupled with change in training culture from greater and greater perfection in scripted corps-du-ballet exercises to free-play force-on-force and wargame based training – structure change will fail without culture change.

D. Changes that the Marine Corps Should Make In-House to Enable the Above

1. Modernize the Marine Corps manpower data system to efficiently capture, preserve, and make freely available at every echelon, high-resolution personnel assignment data (See Annex 4, Modernize the Marine Corps Manpower Data System).
2. Develop efficient, accessible, easy to use and easy to understand tools that allow leaders at every level to incorporate into their daily decisions, how much time Marines in their charge have spent / will spend together. “Build the wisdom into the iron” – in this case the iron of the administrative tools leaders have at their disposal.
3. Make manpower managers, both centrally and below the level of Manpower Management (MM) responsible to metrics of unit stability, *pari passu* with existing metrics. Measure their success by additional criteria to the ones used today.
4. There are currently four officer monitors and 13-15 enlisted monitors making assignments to *each* battalion. Think through the means to make responsibility for manning a given battalion less diffuse, more clearly defined, easier to communicate with.
5. As the functions of battalion Personnel Officers (PersOs) become centralized in Division, it is essential that local line leaders and manpower officials understand that their goals must be unit stability at the company level and below. Without this guidance and without the means to measure stability, they will inevitably be hypnotized by the uniformity and level of inventory fill measurements and sacrifice everything else to these.
6. Don’t make “one size fit all” – for example, in a weapons unit with heavy

equipment and ammunition to carry, the number of Marines required is far less flexible and cannot be traded off against unit skill and cohesion as is possible to a degree in a rifle unit. Trying to substitute cohesion for numbers in a weapons unit is liable to create a vicious cycle where smaller numbers leads to increased injuries leading to smaller numbers...

7. Make use of existing flexibility to measure end-strength on a moving average basis, rather than an as-of-calendar date basis.
8. Harmonize officer and NCO career paths and expectations with unit cycles. *This may be the single most important move to build unit cohesion into the culture.*
9. Realign the Marine Corps Security Force (MCSF) training / employment so that Marines reach EAS at the end of their MCSF assignments, rather than returning to the battalions, where they appear to be both unhappy and unwelcome.
10. Recruiting, thus entry level training, thus first-term Marine availability display significant predictable *seasonal cycles*. Openly discuss and struggle through the competing goods involved in cyclic supply of first term Marines to billets in the fleet *versus* elsewhere. During the rainy season, everyone gets to drink, whether they are close to the water hole or not. Decisions about what billets get to drink at the water hole during the dry season, should be openly and mindfully made by the leadership.
11. Shift the organizational focus from a single centrally administered cohesion program to the empowerment of leaders at all levels to promote cohesion.
12. Write a “Leader’s Guide to Promoting Cohesion.”
13. Review doctrinal and other official publications. Review what is taught to company grade officers and to career NCOs.
14. Harmonize unit deployment schedules and “cohesion events” such as CAX – a Marine Corps-wide TEEP? Locate responsibility for this in Marine Corps Training and Education Command (T&E)?
15. Establish a “unit reconstitution” as a core competency of Fleet Marine Force (FMF).
16. Write a “Leader’s Guide to Unit Reconstitution.”
17. **Do not** use coercive measures to slow officer resignations, and publicize that the Marine Corps is eschewing coercive measures.

E. DoD-wide and / or Congressional Initiatives to Enable the Above

1. Advocate at the highest level of DoD and in Congress for the incorporation of stability / cohesion / familiarity measurement into the readiness reporting system to permit a degree of trade-off between cohesion and personnel inventory measures.
2. *Insist* that any DoD-wide human resources data system be designed to at least be *compliant with* a Marine Corps requirement for the capture, preservation, and availability of high-resolution assignment data (i.e., at least company and platoon – preferably company / platoon / squad – level). If the other services don't want to use this capacity, that's their loss – but their lack of interest should not be allowed to veto the Marine Corps' requirement for this capacity. Anyone who says it would “cost too much” to design this capacity into the new DoD-wide system is speaking from ignorance or with a bias against unit manning systems.