

LESSON PLAN

Physical Dimension

INTRODUCTION (5 MIN)

1. GAIN ATTENTION: PFC E.B. Sledge describes his experiences on Peleliu during World War II, “For us, combat was a series of changing events characterized by confusion, awesome violence, gripping fear, physical stress and fatigue, fierce hatred of the enemy, and overwhelming grief over the loss of friends. We endured vile personal filth in a repulsive environment, saturated with the stench of death and decay . . . In combat I saw little, knew little, and understood still less about anything that occurred outside K3/5 [Kilo Company, 3rd Battalion, 5th Marines]. We had our hands full fighting and trying to survive moment to moment.” Combat stress is a psychological reaction to exposure to battle conditions. It will incapacitate a Soldier just as much as injury or disease. On the average, you can expect one combat stress casualty for every three to five wounded in action. This ratio will be higher during lengthy periods of intense combat. On the battlefield you may experience high ratios unless leaders and Soldier train to cope with stress. Combat stress is a command problem. Combat stress seriously affects mission accomplishment because of Soldier lost from duty and reduced performance. It is a command responsibility to take action to strengthen Soldier' resistance to combat stress and manage stress in units.
2. OVERVIEW: This lesson provides an understanding of the physical dimensions of combat.
3. LEARNING OBJECTIVES:

INSTRUCTORS NOTE: MAKE THE STUDENTS AWARE OF THE LEARNING OBJECTIVES.

a. TERMINAL LEARNING OBJECTIVE: Without the aid of references, explain the elements found in the combat environment.

b. ENABLING LEARNING OBJECTIVES (CE): Without the aid of references, identify the following:

- (1) Definition of war.
- (2) Attributes of war.
- (3) War as an act of policy.
- (3) Levels of war.
- (4) Styles of warfare.
- (5) Sources of combat power.

4. METHOD/MEDIA. This lesson will be taught by the lecture method. Media will be produced locally.

5. EVALUATION. You will be evaluated by a comprehensive exam.

TRANSITION: Are there any questions about what we will cover or how you will be evaluated? If not, let's discuss a definition of war.

BODY (70 MIN)

1. DEFINITION WAR: (10 MIN) War is a violent clash of interests between or among organized groups characterized by the use of military force. These groups have traditionally been established nation-states, but they may also include any non state group — such as an international coalition or a faction within or outside of an existing state — with its own political interests and the ability to generate organized violence on a scale sufficient to have significant political consequences.

a. Essence of War: The essence of war is a violent struggle between two hostile, independent, and irreconcilable wills, each trying to impose itself on the other. War is fundamentally an interactive social process. Clausewitz called it a *Zweikampf* (literally a “two-struggle”) and suggested the image of a pair of wrestlers locked in a hold, each exerting force and counter force to try to throw the other. War is thus a process of continuous mutual adaptation, of give and take, move and countermove. It is critical to keep in mind that the enemy is not an inanimate object to be acted upon but an independent and animate force with its own objectives and plans. While we try to impose our will on the enemy, he resists us and seeks to impose his own will on us. Appreciating this dynamic interplay between opposing human wills is essential to understanding the fundamental nature of war.

b. Object of War: The object in war is to impose our will on our enemy. The means to this end is the organized application or threat of violence by military force. The target of that violence may be limited to hostile combatant forces, or it may extend to the enemy population at large. War may range from intense clashes between large military forces — sometimes backed by an official declaration of war — to subtler, unconventional hostilities that barely reach the threshold of violence.

c. Total War Versus Perfect Peace: Total war and perfect peace rarely exist in practice. Instead, they are extremes between which exist the relations among most political groups. This range includes routine economic competition, more or less permanent political or ideological tension, and occasional crises among groups. The decision to resort to the use of military force of some kind may arise at any point within these extremes, even during periods of relative peace. On one end of the spectrum, military force may be used simply to maintain or restore order in civil disturbances or disaster relief operations. At the other extreme, force may be used to completely overturn the existing order within a society or between two or more societies. Some cultures consider it a moral imperative to go to war only as a last resort when all peaceful means to settle disagreements have failed. Others have no such hesitancy to resort to military force to achieve their aims.

d. Evolution of War: War is both timeless and ever changing. While the basic nature of war is constant, the means and methods we use evolve continuously. Changes may be gradual in some cases and drastic in others. Drastic changes in war are the result of developments that dramatically upset the equilibrium of war such as the rifled bore, mass conscription, and the railroad. One major catalyst of change is the advancement of technology. As the hardware of war improves through technological development, so must the tactical, operational, and strategic usage adapt to its improved capabilities both to maximize our own capabilities and to counteract our enemy's. It is important to understand which aspects of war are likely to change and which are not. We must stay abreast of the process of change for the belligerent who first exploits a development in the art and science of war gains a significant advantage. If we are ignorant of the changing face of war, we will find ourselves unequal to its challenges.

e. Science, Art, and Dynamic of War:

(1) Science of War: Various aspects of war fall principally in the realm of science, which is the methodical application of the empirical laws of nature. The science of war includes those activities directly subject to the laws of ballistics, mechanics, and like disciplines; for example, the application of fires, the effects of weapons, and the rates and methods of movement and resupply. However, science

does not describe the whole phenomenon.

(2) Art of War: An even greater part of the conduct of war falls under the realm of art, which is the employment of creative or intuitive skills. Art includes the creative, situational application of scientific knowledge through judgment and experience, and so the art of war subsumes the science of war. The art of war requires the intuitive ability to grasp the essence of a unique military situation and the creative ability to devise a practical solution. It involves conceiving strategies and tactics and developing plans of action to suit a given situation. This still does not describe the whole phenomenon. Owing to the vagaries of human behavior and the countless other intangible factors which influence war, there is far more to its conduct than can be explained by art and science. Art and science stop short of explaining the fundamental dynamic of war.

(3) Dynamic of War: As we have said, war is a social phenomenon. Its essential dynamic is the dynamic of competitive human interaction rather than the dynamic of art or science. Human beings interact with each other in ways that are fundamentally different from the way a scientist works with chemicals or formulas or the way an artist works with paints or musical notes. It is because of this dynamic of human interaction that fortitude, perseverance, boldness, esprit, and other traits not explainable by art or science are so essential in war. We thus conclude that the conduct of war is fundamentally a dynamic process of human competition requiring both the knowledge of science and the creativity of art but driven ultimately by the power of human will.

TRANSITION: Now that we know what war is, let's talk about the attributes of war.

2. ATTRIBUTES OF WAR: (15 MIN)

a. Friction: Portrayed as a clash between two opposing wills, war appears a simple enterprise. In practice, the conduct of war becomes extremely difficult because of the countless factors that impinge on it. These factors collectively have been called *friction*, which Clausewitz described as "the force that makes the apparently easy so difficult." Friction is the force that resists all action and saps energy. It makes the simple difficult and the difficult seemingly impossible. The very essence of war as a clash between opposed wills creates friction. In this dynamic environment of interacting forces, friction abounds.

(1) Types of Friction:

(a) Mental: Friction may be mental, as in indecision over a course of action.

(b) Physical: It may be physical, as in effective enemy fire or a terrain obstacle that must be overcome.

(c) External: Friction may be external, imposed by enemy action, the terrain, weather, or mere chance.

(d) Self-Induced: Friction may be self-induced, caused by such factors as lack of a clearly defined goal, lack of coordination, unclear or complicated plans, complex task organizations or command relationships, or complicated technologies. Whatever form it takes, because war is a human enterprise, friction will always have a psychological as well as a physical impact.

(2) Fight Effectively: While we should attempt to minimize self-induced friction, the greater requirement is to fight effectively despite the existence of friction. One essential means to overcome friction is the will; we prevail over friction through persistent strength of mind and spirit. While striving ourselves to overcome the effects of friction, we must attempt at the same time to raise our

enemy's friction to a level that weakens his ability to fight.

(3) Training: We can readily identify countless examples of friction, but until we have experienced it ourselves, we cannot hope to appreciate it fully. Only through experience can we come to appreciate the force of will necessary to overcome friction and to develop a realistic appreciation for what is possible in war and what is not. While training should attempt to approximate the conditions of war, we must realize it can never fully duplicate the level of friction of real combat.

b. Uncertainty: Another attribute of war is uncertainty. We might argue that uncertainty is just one of many sources of friction, but because it is such a pervasive trait of war, we will treat it singly. All actions in war take place in an atmosphere of uncertainty, or the "fog of war." Uncertainty pervades battle in the form of unknowns about the enemy, about the environment, and even about the friendly situation. While we try to reduce these unknowns by gathering information, we must realize that we cannot eliminate them — or even come close. The very nature of war makes certainty impossible; all actions in war will be based on incomplete, inaccurate, or even contradictory information.

(1) Unpredictability of War: War is intrinsically unpredictable. At best, we can hope to determine possibilities and probabilities. This implies a certain standard of military judgment: What is possible and what is not? What is probable and what is not? By judging probability, we make an estimate of our enemy's designs and act accordingly. Having said this, we realize that it is precisely those actions that seem improbable that often have the greatest impact on the outcome of war. Because we can never eliminate uncertainty, we must learn to fight effectively despite it. We can do this by developing simple, flexible plans; planning for likely contingencies; developing standing operating procedures; and fostering initiative among subordinates.

(2) Disproportionate Effects: One important source of uncertainty is a property known as *non linearity*. Here the term refers to systems in which causes and effects are disproportionate. Minor incidents or actions can have decisive effects. Outcomes of battles can hinge on the actions of a few individuals, and as Clausewitz observed, "issues can be decided by chances and incidents so minute as to figure in histories simply as anecdotes."

(3) Acceptance of Risk: By its nature, uncertainty invariably involves the estimation and acceptance of risk. Risk is inherent in war and is involved in every mission. Risk is equally common to action and inaction. Risk may be related to gain; greater potential gain often requires greater risk. The practice of concentrating combat power toward the main effort necessitates the willingness to accept prudent risk elsewhere. However, we should clearly understand that the acceptance of risk does not equate to the imprudent willingness to gamble the entire likelihood of success on a single improbable event.

(4) Element of Chance: Part of uncertainty is the ungovernable element of chance. Chance is a universal characteristic of war and a continuous source of friction. Chance consists of turns of events that cannot reasonably be foreseen and over which we and our enemy have no control. The constant potential for chance to influence outcomes in war, combined with the inability to prevent chance from impacting on plans and actions, creates psychological friction. However, we should remember that chance favors neither belligerent exclusively. Consequently, we must view chance not only as a threat but also as an opportunity which we must be ever ready to exploit.

c. Fluidity: Like friction and uncertainty, fluidity is an inherent attribute of war. Each episode in war is the temporary result of a unique combination of circumstances, presenting a unique set of problems and requiring an original solution. Nevertheless, no episode can be viewed in isolation. Rather, each episode merges with those that precede and follow it — shaped by the former and shaping the conditions of the latter — creating a continuous, fluctuating flow of activity replete with fleeting

opportunities and unforeseen events. Since war is a fluid phenomenon, its conduct requires flexibility of thought. Success depends in large part on the ability to adapt — to proactively shape changing events to our advantage as well as to react quickly to constantly changing conditions.

(1) Competitive Rhythm: It is physically impossible to sustain a high tempo of activity indefinitely, although clearly there will be times when it is advantageous to push men and equipment to the limit. The tempo of war will fluctuate from periods of intense combat to periods in which activity is limited to information gathering, replenishment, or redeployment. Darkness and weather can influence the tempo of war but need not halt it. A competitive rhythm will develop between the opposing wills with each belligerent trying to influence and exploit tempo and the continuous flow of events to suit his purposes.

(2) Massing Versus Dispersing: Military forces will mass to concentrate combat power against the enemy. However, this massing will also make them vulnerable to the effects of enemy fires, and they will find it necessary to disperse. Another competitive rhythm will develop — disperse, concentrate, disperse again — as each belligerent tries to concentrate combat power temporarily while limiting the vulnerability to enemy combat power.

d. Disorder: In an environment of friction, uncertainty, and fluidity, war gravitates naturally toward disorder. Like the other attributes of war, disorder is an inherent characteristic of war; we can never eliminate it. In the heat of battle, plans will go awry, instructions and information will be unclear and misinterpreted, communications will fail, and mistakes and unforeseen events will be commonplace. It is precisely this natural disorder which creates the conditions ripe for exploitation by an opportunistic will. Each encounter in war will usually tend to grow increasingly disordered over time. As the situation changes continuously, we are forced to improvise again and again until finally our actions have little, if any, resemblance to the original scheme. By historical standards, the modern battlefield is particularly disorderly. While past battlefields could be described by linear formations and uninterrupted linear fronts, we cannot think of today's battlefield in linear terms. The range and lethality of modern weapons have increased dispersion between units. In spite of communications technology, this dispersion strains the limits of positive control. The natural result of dispersion is unoccupied areas, gaps, and exposed flanks which can and will be exploited, blurring the distinction between front and rear and friendly and enemy controlled areas. The occurrences of war will not unfold like clockwork. We cannot hope to impose precise, positive control over events. The best we can hope for is to impose a general framework of order on the disorder, to influence the general flow of action rather than to try to control each event. If we are to win, we must be able to operate in a disorderly environment. In fact, we must not only be able to fight effectively in the face of disorder, we should seek to generate disorder and use it as a weapon against our opponent.

e. Complexity: War is a complex phenomenon. We have described war as essentially a clash between opposed wills. In reality, each belligerent is not a single, homogeneous will guided by a single intelligence. Instead, each belligerent is a complex system consisting of numerous individual parts. A division comprises regiments, a regiment comprises battalions, and so on all the way down to fire teams which are composed of individual Soldier. Each element is part of a larger whole and must cooperate with other elements for the accomplishment of the common goal. At the same time, each has its own mission and must adapt to its own situation. Each must deal with friction, uncertainty, and disorder at its own level, and each may create friction, uncertainty, and disorder for others, friendly as well as enemy. As a result, war is not governed by the actions or decisions of a single individual in any one place but emerges from the collective behavior of all the individual parts in the system interacting locally in response to local conditions and incomplete information. A military action is not the monolithic execution of a single decision by a single entity but necessarily involves near-countless independent but interrelated decisions and actions being taken simultaneously throughout the

organization. Efforts to fully centralize military operations and to exert complete control by a single decision maker are inconsistent with the intrinsically complex and distributed nature of war.

TRANSITION: Now that we know the attributes of war, let's take a five minute break before we come back and look at how war is an act of policy.

INSTRUCTOR NOTE: GIVE THE STUDENTS A FIVE MINUTE BREAK.

3. WAR AS AN ACT OF POLICY: (10 MIN) War is an extension of both policy and politics with the addition of military force. Policy and politics are related but not synonymous, and it is important to understand war in both contexts. Politics refers to the distribution of power through dynamic interaction, both cooperative and competitive, while policy refers to the conscious objectives established within the political process. The policy aims that are the motive for any group in war should also be the foremost determinants of its conduct. The single most important thought to understand about our theory is that war *must serve policy*.

a. Policy Aims: As the policy aims of war may vary from resistance against aggression to the unconditional surrender of an enemy government, so should the application of violence vary in accordance with those aims. Of course, we may also have to adjust our policy objectives to accommodate our chosen means. This means that we must not establish goals outside our capabilities. It is important to recognize that many political problems cannot be solved by military means. Some can, but rarely as anticipated. War tends to take its own course as it unfolds. We should recognize that war is not an inanimate instrument, but an animate force which may likely have unintended consequences that may change the political situation.

b. As an Extension of Politics and Policy: To say that war is an extension of politics and policy is not to say that war is strictly a political phenomenon: It also contains social, cultural, psychological, and other elements. These can also exert a strong influence on the conduct of war as well as on war's usefulness for solving political problems.

c. Political Restrictions: When the policy motive of war is extreme, such as the destruction of an enemy government, then war's natural military tendency toward destruction will coincide with the political aim, and there will tend to be few political restrictions on the military conduct of war. On the other hand, the more limited the policy motive, the more the military tendency toward destruction may be at variance with that motive, and the more likely political considerations will restrict the application of military force. Commanders must recognize that since military action must serve policy, these political restrictions on military action may be perfectly correct. At the same time, military leaders have a responsibility to advise the political leadership when the limitations imposed on military action jeopardize the military's ability to accomplish its assigned mission.

d. Use of Military Force to Impose our Will: There are two ways to use military force to impose our will on an enemy.

(1) Strategy of Incapacitation: The first is to make the enemy helpless to resist us by physically destroying his military capabilities. The aim is the elimination, permanent or temporary, of the enemy's military power. This has historically been called a *strategy of annihilation*, although it does not necessarily require the physical annihilation of all military forces. Instead, it requires the enemy's incapacitation as a viable military threat, and thus can also be called a *strategy of incapacitation*. We use force in this way when we seek an unlimited political objective, such as the overthrow of the enemy leadership. We may also use this strategy in pursuit of more limited political objectives if we believe

the enemy will continue to resist as long as any means to do so remain.

(2) Strategy of Erosion: The second approach is to convince the enemy that accepting our terms will be less painful than continuing to resist. This is a *strategy of erosion*, using military force to erode the enemy leadership's will. In such a strategy, we use military force to raise the costs of resistance higher than the enemy is willing to pay. We use force in this manner in pursuit of limited political goals that we believe the enemy leadership will ultimately be willing to accept.

e. Means in War: At the highest level, war involves the use of all the elements of power that one political group can bring to bear against another. These include, for example, economic, diplomatic, military, and psychological forces. Our primary concern is with the use of *military force*. Nevertheless, while we focus on the use of military force, we must not consider it in isolation from the other elements of national power. The use of military force may take any number of forms from the mere deployment of forces as a demonstration of resolve to the enforcement of a negotiated truce to general warfare with sophisticated weaponry.

f. Application of Policy and Politics: Conflict can take a wide range of forms constituting a spectrum which reflects the magnitude of violence involved. At one end of the spectrum are those actions referred to as military operations other than war in which the application of military power is usually restrained and selective. Military operations other than war encompass the use of a broad range of military capabilities to deter war, resolve conflict, promote peace, and support civil authorities. At the other end of the spectrum is general war, a large-scale, sustained combat operation such as global conflict between major powers. Where on the spectrum to place a particular conflict depends on several factors. Among them are policy objectives, available military means, national will, and density of fighting forces or combat power on the battlefield. In general, the greater this density, the more intense the conflict. Each conflict is not uniformly intense. As a result, we may witness relatively intense actions within a military operation other than war or relatively quiet sectors or phases in a major regional conflict or general war. Military operations other than war and small wars are more probable than a major regional conflict or general war. Many political groups simply do not possess the military means to wage war at the high end of the spectrum. Many who fight a technologically or numerically superior enemy may choose to fight in a way that does not justify the enemy's full use of that superiority. Unless actual survival is at stake, political groups are generally unwilling to accept the risks associated with general war. However, a conflict's intensity may change over time. Belligerents may escalate the level of violence if the original means do not achieve the desired results. Similarly, wars may actually de-escalate over time; for example, after an initial pulse of intense violence, the belligerents may continue to fight on a lesser level, unable to sustain the initial level of intensity. The Armed/Defense Force, as the nation's force-in-readiness, must have the versatility and flexibility to deal with a situation at any intensity across the entire spectrum of conflict. This is a greater challenge than it may appear: Military operations other than war and small wars are not simply lesser forms of general war. A modern military force capable of waging a war against a large conventional force may find itself ill-prepared for a "small" war against a lightly equipped guerrilla force.

TRANSITION: Now that we are done with looking at war as an act of policy, let's now talk about the levels of war.

4. LEVELS OF WAR: (5 MIN) Activities in war take place at several interrelated levels which form a hierarchy. These levels are the strategic, operational, and tactical.

a. Strategic Level: The highest level is the *strategic* level. Activities at the strategic level focus

directly on policy objectives. Strategy applies to peace as well as war. We distinguish between *national strategy*, which coordinates and focuses all the elements of national power to attain the policy objectives, and *military strategy*, which is the application of military force to secure the policy objectives. Military strategy thus is subordinate to national strategy. Military strategy can be thought of as the art of winning wars and securing peace. Strategy involves establishing goals, assigning forces, providing assets, and imposing conditions on the use of force in theaters of war. Strategy derived from political and policy objectives must be clearly understood to be the sole authoritative basis for all operations.

b. Tactical Level: The lowest level is the *tactical* level. Tactics refers to the concepts and methods used to accomplish a particular mission in either combat or other military operations. In war, tactics focuses on the application of combat power to defeat an enemy force in combat at a particular time and place. In non combat situations, tactics may include the schemes and methods by which we perform other missions, such as enforcing order and maintaining security during peacekeeping operations. We normally think of tactics in terms of combat, and in this context tactics can be thought of as the art and science of winning engagements and battles. It includes the use of firepower and maneuver, the integration of different arms, and the immediate exploitation of success to defeat the enemy. Included within the tactical level of war is the performance of combat service support functions such as resupply or maintenance. The tactical level also includes the *technical* application of combat power, which consists of those techniques and procedures for accomplishing specific tasks *within* a tactical action. These include the call for fire, techniques of fire, the operation of weapons and equipment, and tactical movement techniques. There is a certain overlap between tactics and techniques. We make the point only to draw the distinction between tactics, which requires judgment and creativity, and techniques and procedures, which generally involves repetitive routine.

c. Operational Level: The *operational* level of war links the strategic and tactical levels. It is the use of tactical results to attain strategic objectives. The operational level includes deciding when, where, and under what conditions to engage the enemy in battle — and when, where, and under what conditions to *refuse* battle in support of higher aims. Actions at this level imply a broader dimension of time and space than actions at the tactical level. As strategy deals with winning wars and tactics with winning battles and engagements, the operational level of war is the art and science of winning campaigns. Its means are tactical results, and its ends are the established strategic objectives.

TRANSITION: Now that we are done with the levels of war, let's talk about the styles of warfare.

5. STYLES OF WARFARE: (15 MIN) Styles in warfare can be described by their place on a spectrum of attrition and maneuver.

a. Attrition Warfare: Warfare by attrition pursues victory through the cumulative destruction of the enemy's material assets by superior firepower. It is a direct approach to the conduct of war that sees war as a straightforward test of strength and a matter principally of force ratios. An enemy is seen as a collection of targets to be engaged and destroyed systematically. Enemy concentrations are sought out as the most worthwhile targets. The logical conclusion of attrition warfare is the eventual physical destruction of the enemy's entire arsenal, although the expectation is that the enemy will surrender or disengage before this happens out of unwillingness to bear the rising cost. The focus is on the efficient application of fires, leading to a highly proceduralized approach to war. Technical proficiency, especially in weapons employment, matters more than cunning or creativity. Attrition warfare may recognize maneuver as an important component but sees its purpose as merely to allow us to bring our fires more efficiently to bear on the enemy. The attritionist tends to gauge progress in quantitative terms: battle damage assessments, "body counts," and terrain captured. Results are generally proportionate to efforts; greater expenditures net greater results that is, greater attrition. The desire for

volume and accuracy of fire tends to lead toward centralized control, just as the emphasis on efficiency tends to lead to an inward focus on procedures and techniques. Success depends on an over-all superiority in attritional capacity that is, the ability to inflict *and* absorb attrition. The greatest necessity for success is numerical and material superiority. At the national level, war becomes as much an industrial as a military problem. Historically, nations and militaries that perceived they were numerically and technologically superior have often adopted warfare by attrition. Pure attrition warfare does not exist in practice, but examples of warfare with a high attrition content are plentiful: the operations of both sides on the Western Front of the First World War; the French defensive tactics and operations against the Germans in May 1940; the Allied campaign in Italy in 1943-1944; Eisenhower's broad-front offensive in Europe after Normandy in 1944; U.S. operations in Korea after 1950; and most U.S. operations in the Vietnam War.

b. Maneuver Warfare: On the opposite end of the spectrum is warfare by maneuver which stems from a desire to circumvent a problem and attack it from a position of advantage rather than meet it straight on. Rather than pursuing the cumulative destruction of every component in the enemy arsenal, the goal is to attack the enemy system to incapacitate the enemy *systemically*. Enemy components may remain untouched but cannot function as part of a cohesive whole. Rather than being viewed as desirable targets, enemy concentrations are generally avoided as enemy strengths. Instead of attacking enemy strength, the goal is the application of our strength against selected enemy weakness in order to maximize *advantage*. This tack requires the ability to identify and exploit such weakness. Success depends not so much on the efficient performance of procedures and techniques, but on understanding the specific characteristics of the enemy system. Maneuver relies on speed and surprise for without either we cannot concentrate strength against enemy weakness. Tempo is itself a weapon often the most important. Success by maneuver unlike attrition is often disproportionate to the effort made. However, for exactly the same reasons, maneuver incompetently applied carries with it a greater chance for catastrophic failure. With attrition, potential losses tend to be proportionate to risks incurred. Firepower and attrition are essential elements of warfare by maneuver. In fact, at the critical point, where strength has been focused against enemy vulnerability, attrition may be extreme and may involve the outright annihilation of enemy elements. Nonetheless, the object of such local attrition is not merely to contribute incrementally to the overall wearing down of the entire enemy force, but to eliminate a key element which incapacitates the enemy systemically. Like attrition warfare, maneuver warfare does not exist in its theoretically pure form. Examples of warfare with a high enough maneuver content that they can be considered maneuver warfare include Allenby's decisive campaign against the Turks in Palestine in 1918; German *Blitzkrieg* operations of 1939-1941, most notably the invasion of France in 1940; the failed Allied landing at Anzio in 1944, which was an effort to avoid the attrition battles of the Italian theater; Patton's breakout from the Normandy beachhead in late 1944; MacArthur's Inchon campaign in 1950; and III Amphibious Force's combined action program in Vietnam which attacked the Viet Cong by eliminating their essential popular support base through the pacification of rural villages.

c. Mix: All warfare involves both maneuver and attrition in some mix. The predominant style depends on a variety of factors, not least of which are our own capabilities and the nature of the enemy. Some doctrine today is based principally on warfare by maneuver.

TRANSITION: Now that we know the styles of warfare, let's look at sources of combat power.

6. SOURCES OF COMBAT POWER: (15 MIN) *Combat power* is the total destructive force we can bring to bear on our enemy at a given time. Some factors in combat power are quite tangible and easily measured such as superior numbers, which Clausewitz called "the most common element in victory." Some may be less easily measured such as the effects of maneuver, tempo, or surprise; the advantages conferred by geography or climate; the relative strengths of the offense and defense; or the relative merits of striking the enemy in the front, flanks, or rear. Some may be wholly intangible such as

morale, fighting spirit, perseverance, or the effects of leadership. It is not our intent to try to list or categorize all the various components of combat power, to index their relative values, or to describe their combinations and variations; each combination is unique and temporary. Nor is it even desirable to be able to do so, since this would lead us to a formulaic approach to war. Our intent is merely to make the point that combat power is the situationally dependent and unique product of a variety of physical, moral, and mental factors.

a. Speed and Focus: Of all the consistent patterns we can discern in war, there are two concepts of universal significance in generating combat power: *speed* and *focus*.

(1) Speed: Speed is rapidity of action. It applies to both time and space. Speed over time is tempo the consistent ability to operate quickly. Speed over distance, or space, is the ability to move rapidly. Both forms are genuine sources of combat power. In other words, *speed is a weapon*. In war, it is relative speed that matters rather than absolute speed. Superior speed allows us to seize the initiative and dictate the terms of action, forcing the enemy to react to us. Speed provides security. It is a prerequisite for maneuver and for surprise. Moreover, speed is necessary in order to concentrate superior strength at the decisive time and place. Since it is relative speed that matters, it follows that we should take all measures to improve our own speed while degrading our enemy's. However, experience shows that we cannot sustain a high rate of speed indefinitely. As a result, a pattern develops: fast, slow, fast again. A competitive rhythm develops in combat with each belligerent trying to generate speed when it is advantageous.

(2) Focus: Focus is the convergence of *effects* in time and space on some objective. It is the generation of superior combat power at a particular time and place. Focus may achieve decisive local superiority for a numerically inferior force. The willingness to focus at the decisive place and time necessitates strict economy and the acceptance of risk elsewhere and at other times. To devote means to unnecessary efforts or excessive means to necessary secondary efforts violates the principle of focus and is counterproductive to the true objective. Focus applies not only to the conduct of war but also to the preparation for war. Since war is fluid and opportunities are fleeting, focus applies to time as well as to space. We must focus effects not only at the decisive location but also at the decisive moment. We achieve focus through cooperation toward the accomplishment of the common purpose. This applies to all elements of the force, and involves the coordination of ground combat, aviation, and combat service support elements.

b. Surprise and Boldness: Two additional concepts are particularly useful in generating combat power: *surprise* and *boldness*.

(1) Surprise: By surprise we mean a state of disorientation resulting from an unexpected event that degrades the enemy's ability to resist. We achieve surprise by striking the enemy at a time or place or in a manner for which the enemy is unprepared. It is not essential that we take the enemy unaware, but only that awareness came too late to react effectively. The desire for surprise is "more or less basic to all operations, for without it superiority at the decisive point is hardly conceivable." While a necessary precondition of superiority, surprise is also a genuine source of combat power in its own right because of its psychological effect. Surprise can decisively affect the outcome of combat far beyond the physical means at hand. The advantage gained by surprise depends on the degree of disorientation and the enemy's ability to adjust and recover. Surprise, if sufficiently harsh, can lead to shock, the total, if temporary, inability to react. Surprise is based on speed, stealth, ambiguity, and deception. It often means doing the more difficult thing taking a circuitous direction of attack, for example in the hope that the enemy will not expect it. In fact, this is the genesis of maneuver to circumvent the enemy's strength to strike at a weakness.

(a) Difficulty of Surprise: While the element of surprise is often of decisive importance, we must realize that it is difficult to achieve and easy to lose. Its advantages are only temporary and must be quickly exploited. Friction, a dominant attribute of war, is the constant enemy of surprise. We must also recognize that while surprise is always desirable, the ability to achieve it does not depend solely on our own efforts. Surprise is not what we *do*; it is the enemy's *reaction* to what we do. It depends at least as much on our enemy's susceptibility to surprise his expectations and preparedness. Our ability to achieve surprise thus rests on our ability to appreciate and then exploit our enemy's expectations. Therefore, while surprise can be decisive, it is risky to depend on it alone for the margin of victory.

(b) Methods to Achieve Surprise: There are three basic ways to go about achieving surprise.

1. Deception: The first is through *deception* to convince the enemy we are going to do something other than what we are really going to do in order to induce him to act in a manner prejudicial to his own interests. The intent is to give the enemy a clear picture of the situation, but the wrong picture.

2. Ambiguity: The second way is through *ambiguity* to act in such a way that the enemy does not know what to expect. Because he does not know what to expect, he must prepare for numerous possibilities and cannot prepare adequately for any one.

3. Stealth: The third is through *stealth* — to deny the enemy any knowledge of impending action. The enemy is not deceived or confused as to our intentions but is completely ignorant of them. Of the three, deception generally offers the greatest effects but is most difficult to achieve.

(2) Boldness: Boldness is a source of combat power in much the same way that surprise is. Boldness is the characteristic of unhesitatingly exploiting the natural uncertainty of war to pursue major results rather than marginal ones. According to Clausewitz, boldness “must be granted a certain power over and above successful calculations involving space, time, and magnitude of forces, for wherever it is superior, it will take advantage of its opponent's weakness. In other words, it is a genuinely creative force.” Boldness is superior to timidity in every instance although boldness does not always equate to immediate aggressive action. A nervy, calculating patience that allows the enemy to commit himself irrevocably before we strike him can also be a form of boldness. Boldness is based on strong situation awareness: We weigh the situation, then act. In other words, boldness must be tempered with judgment lest it border on recklessness.

(3) Connection: There is a close connection between surprise and boldness. The willingness to accept risks often necessary to achieve surprise reflects boldness. Likewise, boldness contributes to achieving surprise. After we weigh the situation, to take half measures diminishes the effects of surprise.

c. Centers of Gravity and Critical Vulnerabilities: It is not enough simply to generate superior combat power. We can easily conceive of superior combat power dissipated over several unrelated efforts or concentrated on some inconsequential object. To win, we must focus combat power toward a decisive aim. There are two related concepts that help us to think about this: *centers of gravity* and *critical vulnerabilities*.

(1) Centers of Gravity: Each belligerent is not a unitary force, but a complex system consisting of numerous physical, moral, and mental components as well as the relationships among them. The combination of these factors determines each belligerent's unique character. Some of these factors are

more important than others. Some may contribute only marginally to the belligerent's power, and their loss would not cause significant damage. Others may be fundamental sources of capability. We ask ourselves: *Which factors are critical to the enemy? Which can the enemy not do without? Which, if eliminated, will bend him most quickly to our will?* These are *centers of gravity*. Depending on the situation, centers of gravity may be intangible characteristics such as resolve or morale. They may be capabilities such as armored forces or aviation strength. They may be localities such as a critical piece of terrain that anchors an entire defensive system. They may be the relationship between two or more components of the system such as the cooperation between two arms, the relations in an alliance, or the junction of two forces. In short, centers of gravity are any important sources of strength. If they are friendly centers of gravity, we want to protect them, and if they are enemy centers of gravity, we want to take them away.

(2) Critical Vulnerabilities: We want to attack the source of enemy strength, but we do not want to attack directly into that strength. We obviously stand a better chance of success by concentrating our strength against some relative enemy weakness. So we also ask ourselves: *Where is the enemy vulnerable?* In battlefield terms, this means that we should generally avoid his front, where his attention is focused and he is strongest, and seek out his flanks and rear, where he does not expect us and where we can also cause the greatest psychological damage. We should also strike at a moment in time when he is vulnerable. Of all the vulnerabilities we might choose to exploit, some are more critical to the enemy than others. Some may contribute significantly to the enemy's downfall while others may lead only to minimal gains. Therefore, we should focus our efforts against a *critical vulnerability*, a vulnerability that, if exploited, will do the most significant damage to the enemy's ability to resist us.

(3) As Complimentary Concepts: We should try to understand the enemy system in terms of a relatively few centers of gravity or critical vulnerabilities because this allows us to focus our own efforts. The more we can narrow it down, the more easily we can focus. However, we should recognize that most enemy systems will not have a single center of gravity on which everything else depends, or if they do, that center of gravity will be well protected. It will often be necessary to attack several lesser centers of gravity or critical vulnerabilities simultaneously or in sequence to have the desired effect. Center of gravity and critical vulnerability are complementary concepts. The former looks at the problem of how to attack the enemy system from the perspective of seeking a source of strength, the latter from the perspective of seeking weakness. A critical vulnerability is a pathway to attacking a center of gravity. Both have the same underlying purpose: to target our actions in such a way as to have the greatest effect on the enemy.

d. Opportunity: This discussion leads us to a corollary thought: the importance of creating and exploiting opportunity. In all cases, the commander must be prepared to react to the unexpected and to exploit opportunities created by conditions which develop from the initial action. When identification of enemy critical vulnerabilities is particularly difficult, the commander may have no choice but to exploit any and all vulnerabilities until action uncovers a decisive opportunity. As the opposing wills interact, they create various fleeting opportunities for either foe. Such opportunities are often born of the fog and friction that is natural in war. They may be the result of our own actions, enemy mistakes, or even chance. By exploiting opportunities, we create in increasing numbers more opportunities for exploitation. It is often the ability and the willingness to ruthlessly exploit these opportunities that generate decisive results. The ability to take advantage of opportunity is a function of speed, flexibility, boldness, and initiative.

TRANSITION: Do you have any questions regarding the physical dimension of warfare?

OPPORTUNITY FOR QUESTIONS: (2 MIN)

1. QUESTIONS FROM THE CLASS:

2. QUESTIONS TO THE CLASS:

QUESTION: What is the definition of war? ANSWER: War is a violent clash of interests between or among organized groups characterized by the use of military force.

QUESTION: What are the attributes of war?

ANSWER: Friction, uncertainty, fluidity, disorder, and complexity.

SUMMARY (3 MIN)

At first glance, war seems a simple clash of interests. On closer examination, it reveals its complexity and takes shape as one of the most demanding and trying of human endeavors. War is an extreme test of will. Friction, uncertainty, fluidity, disorder, and danger are its essential features. War displays broad patterns that can be represented as probabilities, yet it remains fundamentally unpredictable. Each episode is the unique product of myriad moral, mental, and physical forces. Individual causes and their effects can rarely be isolated. Minor actions and random incidents can have disproportionately large — even decisive — effects. While dependent on the laws of science and the intuition and creativity of art, war takes its fundamental character from the dynamic of human interaction.