

WARF VII

PATTERNS OF CONFLICT

18 Jan '77

BACKGROUND

Assymmetric Fast Transient

Conception of Tactics and Strategy

GENERALIZATION

- Need fighter that can both lose energy and gain energy more quickly while outturning an adversary.
- Suggests a fighter with a higher aerodynamic G and higher turn rates/lower turn radii for positive energy rates - but not necessarily higher turn rates/lower turn radii for negative energy rates.
- In other words, suggests a fighter that can be used to initiate and control engagement opportunities - yet has a fast transient ("natural hook") that can be used to either force an overshoot by an attacker or stay inside a hard turning defender.

IDEA EXPANSION

- Idea of fast transients suggests that, in order to win or gain superiority, we should operate at a faster tempo than our adversaries or inside our adversaries time scales -- or better yet, get inside adversary's Observation-Decision-Action time scales.
- Why? Such activity will make us appear ambiguous (non-predictable) thereby generate confusion and disorder among our adversaries -- as suggested by Gödel's Proof, the Heisenberg Principle and the Second Law of Thermodynamics.

EXAMPLES

- Blitzkrieg vs Maginot Line Mentality (1940)
- F-86 vs MiG-15 (1951 - 53)
- Israeli Raid (1976)

ILLUMINATION

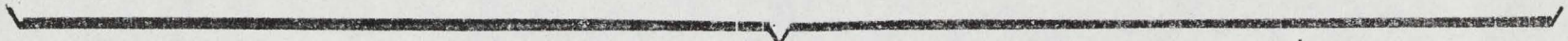
Notions

- Gödel's Proof
- Heisenberg Principle
- Second Law of Thermodynamics



Synthesis

- We cannot determine the character or nature of a system within itself.
- Efforts to do so will only generate confusion and disorder.



- Fast transients (faster tempo) together with synthesis associated with Gödel, Heisenberg, and the Second Law suggest a new conception for air-to-air combat and for waging war.

NEW CONCEPTION

- ACTION: Exploit operational and technical features to:
 - Generate a rapidly changing environment (quick/clear observations, fast tempo, fast transients, quick kill),
 - Inhibit an adversary's capacity to adapt to such an environment (suppress or distort observations).

- GOAL: Unstructure adversary's system into a "hodge podge" of confusion and disorder by causing him to over and under react because of activity that appears uncertain, ambiguous or chaotic.

A-to-A and A-to-G

RECIPE FOR GENERATING CONFUSION AND DISORDER

- Observations
 - Quick/Clear Scanning Sensors
 - Suppressed/distorted signatures
- Activity
 - Quick and precise performance
 - Supercruise
 - Rapid energy gain and rapid energy loss coupled with hi turn rates and lo turn radii
 - Hi pitch rates/Hi roll rates/Hi yaw rates coupled with ease of control
 - Kill Mechanism
 - Quick shoot weapons and fire control systems

MESSAGE

HE WHO CAN GENERATE AND COPE WITH THE QUICKEST
RATE OF CHANGE SURVIVES.

SOURCES

- Boyd, John R. "Destruction and Creation", 3 September 1976
- Boyd, John R. "Aerial Attack Study", 1960, 1964
- Brown, Anthony Cave "Bodyguard of Lies" 1975
- Canby, Steven "The Alliance and Europe: Part IV Military Doctrine and Technology" Adelphi Paper No. 109, Winter 1974/75
- Despres, John; Dzirkals, Lilita; Whaley, Barton "Timely Lessons from History: The Manchurian Model for Soviet Strategy"
- Dzirkals, Lilita F. "Lightning War in Manchuria: Soviet Military Analysis of the 1945 Far East Campaign", July 1975
- Fuller, J.F.C. "The Conduct of War, 1789-1961", 1961
- Guderian, Heinz "Panzer Leader", 1952
- Guevara, Che "Guerrilla Warfare", 1961
- Isby, David C. "Modern Infantry Tactics, 1914-74" Strategy and Tactics, Sept/Oct 1974
- Lawrence, T.E. "Seven Pillars of Wisdom", 1935
- Liddell Hart, B.H. "Strategy", 1967
- Macksey, Kenneth "Guderian: Creator of the Blitzkrieg", 1976
- Mao Tse-Tung "On Guerrilla Warfare", (translated by S.B. Griffith, 1961) 1937
- Messenger, Charles "The Blitzkrieg Story", 1976
- Miksche, F. O. "Blitzkrieg", 1941
- Miksche, F.O. "Atomic Weapons & Armies", 1955
- Montross, Lynn "War Through the Ages", 1960
- Morris, Eric; Johnson, Curt; Chant, Christopher; Wilmott, H.P. "Weapons and Warfare of the 20th Century" 1976
- Patrick, Stephen B. "Combined Arms Combat Operations in the 20th Century" Strategy and Tactics, Sept/Oct 1974
- Savkin, V. YE. "The Basic Principles of Operational Art and Tactics" (A Soviet View), 1972
- Sidorenko, A.A. "The Offensive" (A Soviet View), 1970
- Singh, Baljit & Mei Lo-Wang "Modern Guerrilla Warfare", 1971
- Sun Tzu "The Art of War" (translated by S.B. Griffith, 1971) around 400 B.C.
- Thayer, Charles W. "Guerrilla", 1961
- Von Mellenthin, F.W. "Panzer Battles", 1956
- Winterbotham, F.W. "The Ultra Secret", 1975
- Army FM 100-5 "Operations", July 1976
- Encyclopedia Britannica, 1972

GOAL

- Improve our capacity for independent action

This may mean we need to

- Deprive our adversary of his capacity for independent action.

QUESTIONS

- How do we realize such a goal by waging war?
- Does history give any insight or suggest any useful pattern?

HISTORICAL PATTERN

SUN TZU -- "THE ART OF WAR" -- AROUND 400 BC

<u>Theme</u>		<u>Strategy</u>
• Deception	}	• Probe enemy's organization and dispositions to unmask intentions and learn his strengths and weaknesses.
• Swiftess-of-Action		
• Fluidity-of-Action		• "Shape" enemy's perception of world to manipulate his plans and actions.
• Cohesion		
• Dispersion/Concentration		• Attack enemy's plans as best policy. Next best disrupt his alliances. Next best attack his army. Attack cities only when there is no alternative.
• Surprise		
• Shock		• Employ Cheng and Ch'i maneuvers to quickly and unexpectedly hurl strength against weakness.

DESIRED OUTCOME

- Subdue enemy without fighting
- Avoid protracted war

HISTORICAL PATTERN

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STRATEGY

- Probe enemy's organization and dispositions to unmask intentions and learn his strengths and weaknesses.
- "Shape" enemy's perception of world to manipulate his plans and actions.
- Attack enemy's plans as best policy. Next best disrupt his alliances. Next best attack his army. Attack cities only when there is no alternative.
- Employ Cheng and Ch'i maneuvers to quickly and unexpectedly hurl strength against weakness.

THEME

- Deception
- Swiftess-of-Action
- Fluidity-of-Action
- Cohesion
- Dispersion/Concentration
- Surprise
- Shock

DESIRED OUTCOME

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HISTORICAL PATTERN

Early Commanders

- Alexander
- Hannibal
- Belisarius
- Jenghis Khan
- Tamerlane

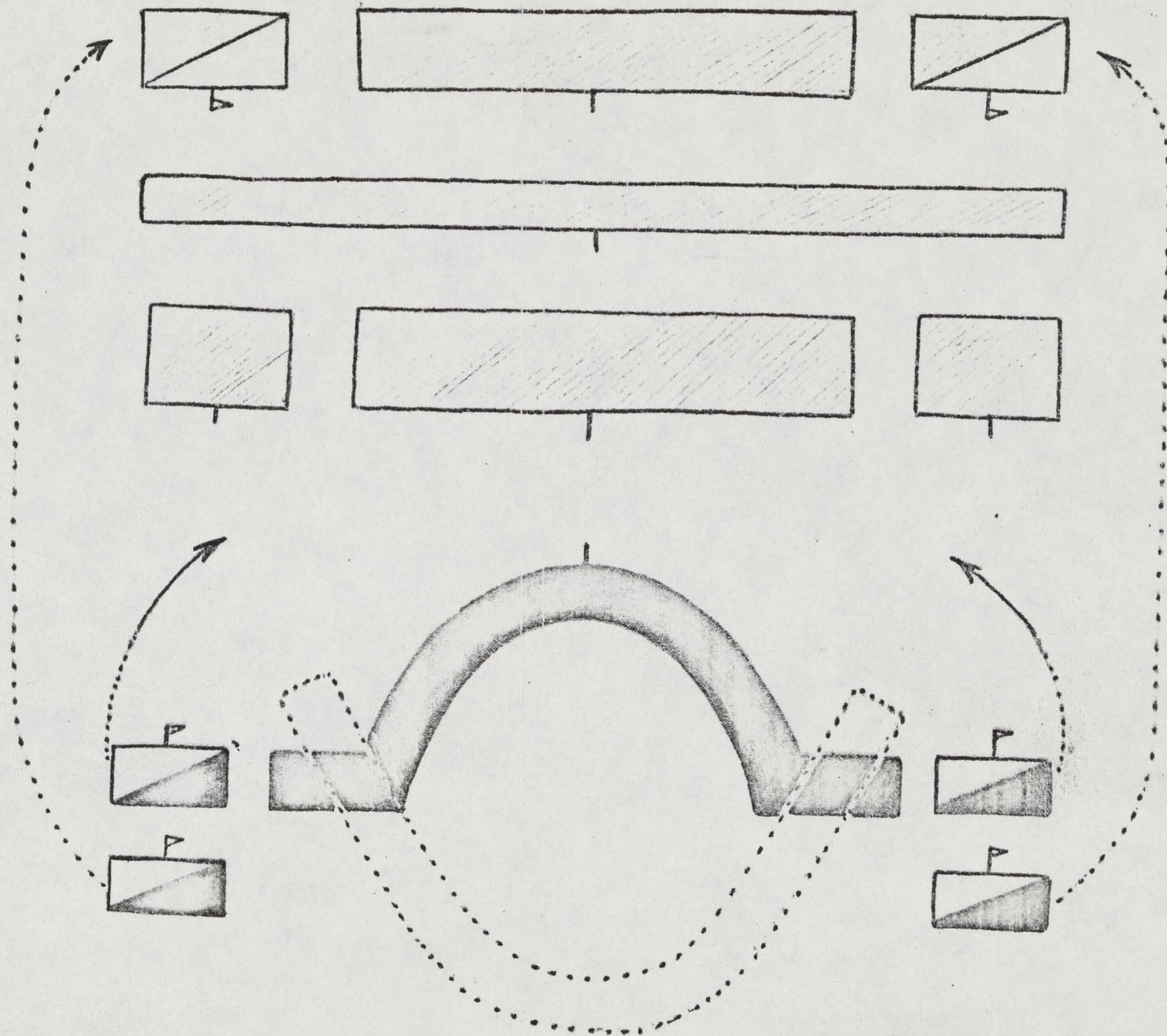
Impression

- Early Commanders seem consistent with ideas of Sun Tzu
- Western Commanders more directly concerned with winning the battle
- Eastern Commanders closer to Sun Tzu in attempting to shatter adversary prior to battle

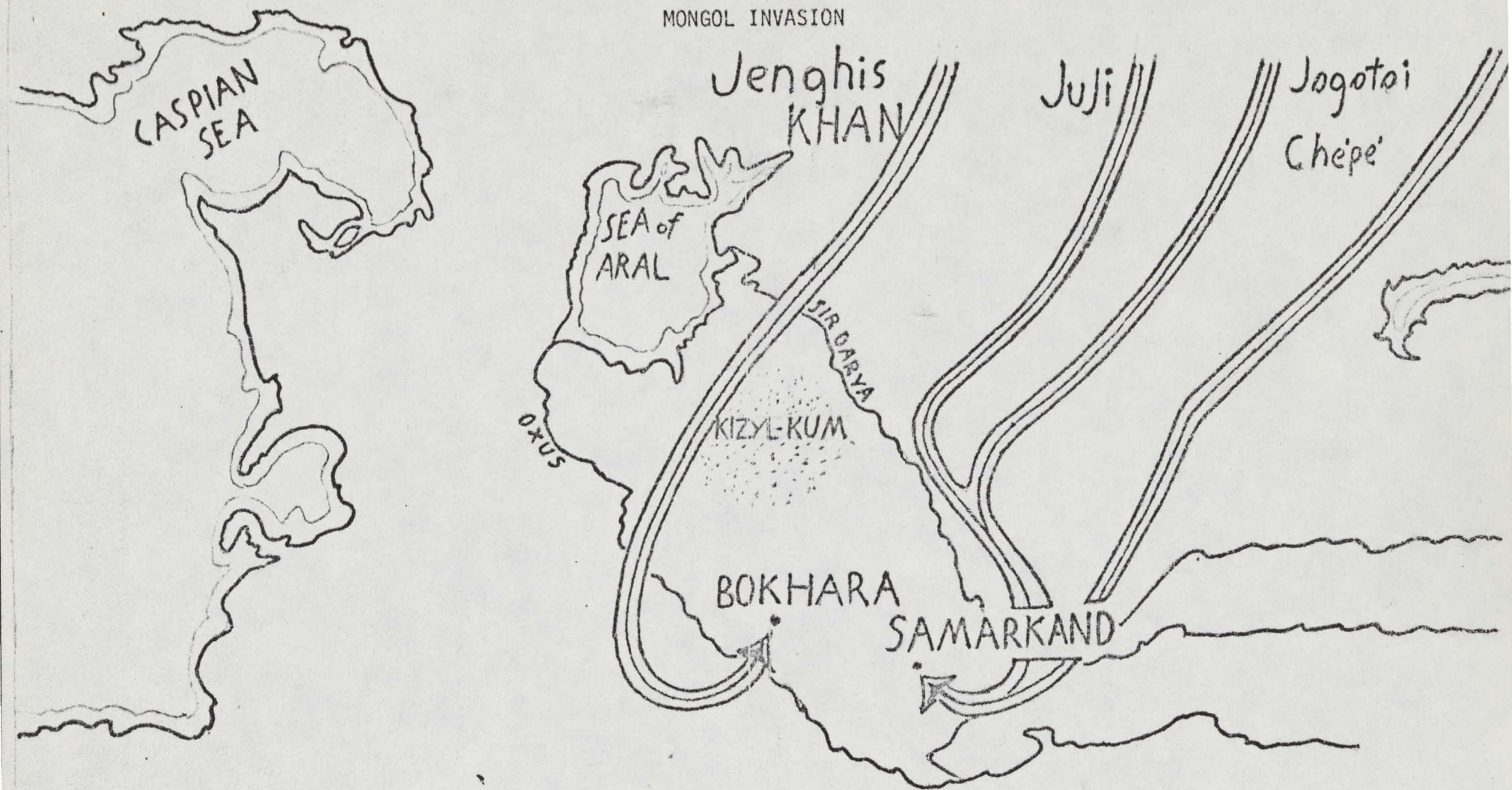
Action

Cheng and Ch'i

BATTLE OF CANNAE



MONGOL INVASION



500 MILES

•HERAT

HISTORICAL PATTERN

18th Century Theoreticians

- Saxe
- Bourcet
- Guibert
- Du Teil

Theme

- Mobility/Fluidity of Force
- Cohesion
- Dispersion and Concentration
- Plan with Several Branches
- Operate on a Line to Threaten Alternative Objectives
- Concentrate Direct Artillery Fire on Key Points to be Forced

Action

- Napoleon was deeply influenced by the ideas of the above men. In early campaigns he applied these ideas as the basis for deception and surprise to defeat superior forces. In later campaigns he relied increasingly on pure offensive power in the form of infantry columns, massed direct artillery fire, and heavy cavalry going against regions of strong resistance -- at an eventually crippling cost in casualties.
- American Colonists, Spanish and Russian Guerrillas, in unexpected ways, used Mobility/Fluidity of Force as basis for Dispersion and Concentration to harass, confuse, and finally defeat the British and French under Napoleon.

IMPRESSION

The ideas of Sun Tzu, Saxe, Bourcet, and Guibert seem to be at home with either Regular or Guerrilla Warfare.

HISTORICAL PATTERN

19th Century Technology

- Railroad/Telegraph
- Quick Fire Artillery
- Machine Gun
- Repeating Rifle
- Barbed Wire
- Trenches

Early Trends

- Emphasized Massed Firepower and Rail Logistics to Support it
- Increased Emphasis on a Holding Defense and Flanking Maneuvers on a broad front to gain a decision
- Use of Frontal assaults by infantry supported by artillery barrages against regions of strong resistance



Result

- Huge armies and massed firepower and other vast needs supported through a narrow fixed logistics network suppressed deception, surprise and mobility of any operation.

KEY POINTS

- The fixed location of the railroads coupled with the massing of enormous supplies "telegraphed" any punch hence minimized the possibility of deception, surprise and mobility to gain a decisive edge.

- In this sense, technology was being used as a crude club that generated frightful and debilitating casualties on all sides during the:
 - American Civil War (1861-65)
 - Austro-Prussian War (1866)
 - Franco-Prussian War (1870)
 - Boer War (1899-1902)
 - Russo-Japanese War (1904-05)
 - World War I (1914-18)

WORLD WAR I

- PLANS AND EXECUTION
- STAGNATION
- FINALE

WORLD WAR I

Action

- Offensives conducted on Wide Fronts
- Eveness of advance maintained to protect flanks and provide artillery support as advance makes headway
- Reserves thrown in whenever attack held up -- against points of strong resistance

Reaction

- Defense organized into depth of successive belts of fortified terrain
- Massed artillery and machinegun fire designed to arrest and pin down attacker
- Counter-attack to win back lost ground

Result

- Stagnation and enormous attrition since advances made generally as expected and along paths of hardened resistance because of dependence upon railroads and choice of tactics of trying to reduce strong points by massed infantry and firepower.

WORLD WAR I

A WAY OUT

Idea

- Infiltration Tactics
- Guerrilla Tactics

Authors

- Capt Laffargue
- Gen Von Hutier?
- Gen Ludendorf
- T.E. Lawrence

WORLD WAR I

Infiltration Tactics

Action

- Briefer but intense artillery bombardment.
- Assault by constantly reinforced special teams (stormtroopers) trained for cohesion and equipped with grenades, light machine guns, and light mortars with orders to avoid opposition and pour (infiltrate) into any gaps they could find or create.
- Follow-up teams of infantry, machine gunners, mortars, field engineers and artillery observers would mop-up isolated strong points of resistance.
- Reserves would be fed from the rear to enlarge gaps and breaches along paths of least resistance and consolidate gains against counter-attack. In this way reserves would be employed to support success instead of trying to redeem failure against regions of heavy resistance.

Idea

- Achieve a tactical breakthrough in order to gain the opportunity to apply the strongest form of attack: envelopment.

WORLD WAR I

Infiltration Tactics

- Result
 - Immediate success at platoon/company/battalion level coupled with ultimate failure at corps/army level.
- Why?
 - Ludendorff violated his own concept by his tendency to use strategic reserves to reinforce against hardened resistance -- hence at the strategic level, he seduced himself into supporting failure not success.
 - Logistics too inflexible to support rapid/fluid penetration and deeper exploitation of breakthrough.
 - Communications too immobile to allow command to quickly identify and reinforce successful advances.
 - Elastic Defense (when used) as developed by the Germans and practiced by Pétain.

WORLD WAR I

Guerrilla Warfare (a la T. E. Lawrence)

Action

- Gain support of population. Must "arrange the minds" of friend, foe and neutral alike. Must "get inside their minds".
- Must "be an idea or thing invulnerable, without front or back, drifting about like a gas" (fluidity-of-action). Must be an "attack-in-depth."
- Tactics "should be tip-and-run, not pushes but strokes" with "use of the smallest force in the quickest time at the farthest place".
- Should be a war of detachment (avoiding contact and presenting a threat everywhere) using mobility/fluidity-of-action and environmental background (vast unknown desert) as basis for "never affording a target" and "never on the defensive except by accident and in error".

Idea

- Disintegrate existing regime's ability to govern.

IMPRESSION

- Infiltration tactics a la Ludendorf seem to be similar in nature to Irregular or Guerrilla tactics a la Lawrence.
- Why? Both use fluidity-of-action and cohesion of small units to concentrate strength against weakness -- but at different levels of concentration.

MAJOR ADVANCES
BETWEEN WORLD WAR I AND II

LIGHTNING WAR (BLITZKRIEG)

- Infiltration Tactics of 1918 were mated with:
 - Tank
 - Motorized Artillery
 - Tactical Aircraft
 - Motor Transport
 - Better Communicationsby
 - JFC Fuller
 - Heinz Guderian.
- Result:
 - Blitzkrieg to generate a breakthrough by piercing a region about 1-2 kilometers wide at two or three points on a narrow front with armor, motorized infantry, and follow-up infantry divisions supported by tactical aircraft.

GUERRILLA WAR

- Guerrilla Strategy and Tactics were codified by Mao Tse-Tung.
- Result:
 - Modern Guerrilla Warfare has become an overall political, economic, psychological and military framework for "total war".

BLITZKRIEG AND GUERRILLA STRATEGY

Infiltration

- Blitz and Guerrillas infiltrate a nation or regime at all levels to soften and shatter the moral fiber of the political, economic and social structure. To carry out this program, a la Sun Tzu, Blitz and Guerrillas:
 - Probe and test to unmask strengths, weaknesses and intentions.
 - Shape adversary's perception of the world to manipulate or undermine his plans and actions.

Purpose

- To force capitulation when combined with external political, economic, and military pressures.

or

- To minimize the resistance of a weakened foe for the military blows that will follow.

WORLD WAR II Blitzkrieg

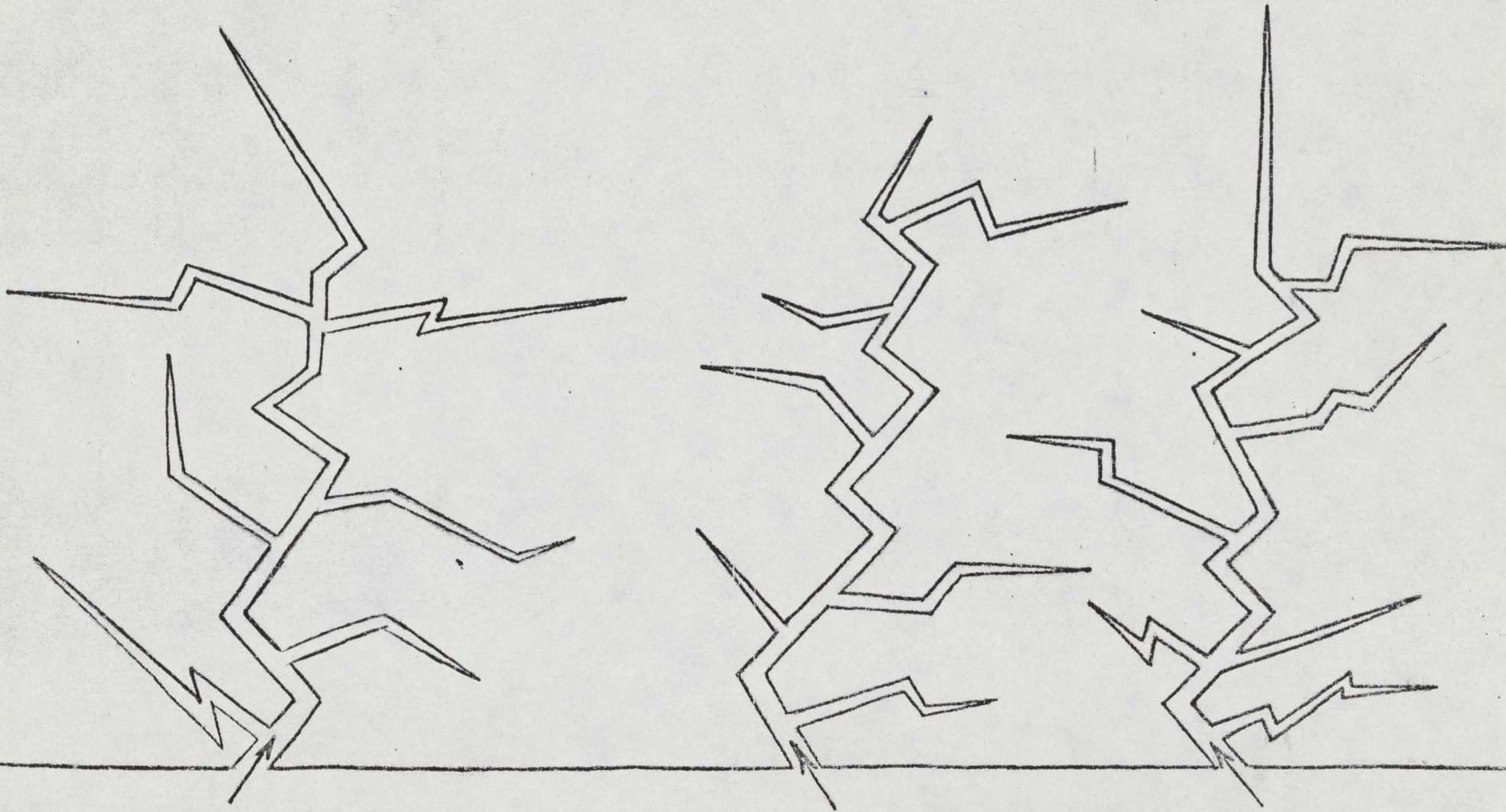
Action

- Probe and test by intelligence, reconnaissance, and patrol actions to uncover adversary strengths, weaknesses, and intentions.
- Brief but intense (or possibly no) preliminary bombardment by artillery and/or air
- Armored reconnaissance teams (leading armored columns) advance rapidly from regions of least expectation to infiltrate adversary on a narrow front along paths of least resistance.
- Fast paced assault by constantly reinforced armored combat teams of tanks, assault guns, infantry, and combat engineers together with close air support to open breaches and gaps along paths of least resistance uncovered by armored reconnaissance.
- When breakthrough occurs, follow-on relatively independent mobile/armored teams, led by armored reconnaissance, blow-through to penetrate at max. speed into adversary's rear along paths of least resistance. Objective is envelopment to destroy command and lines of communication.
- Motorized or foot infantry further back supported by artillery and armor pour-in to wipe-out isolated pockets of resistance, enlarge the breaches and secure the encirclement or captured terrain against possible counter-attack.

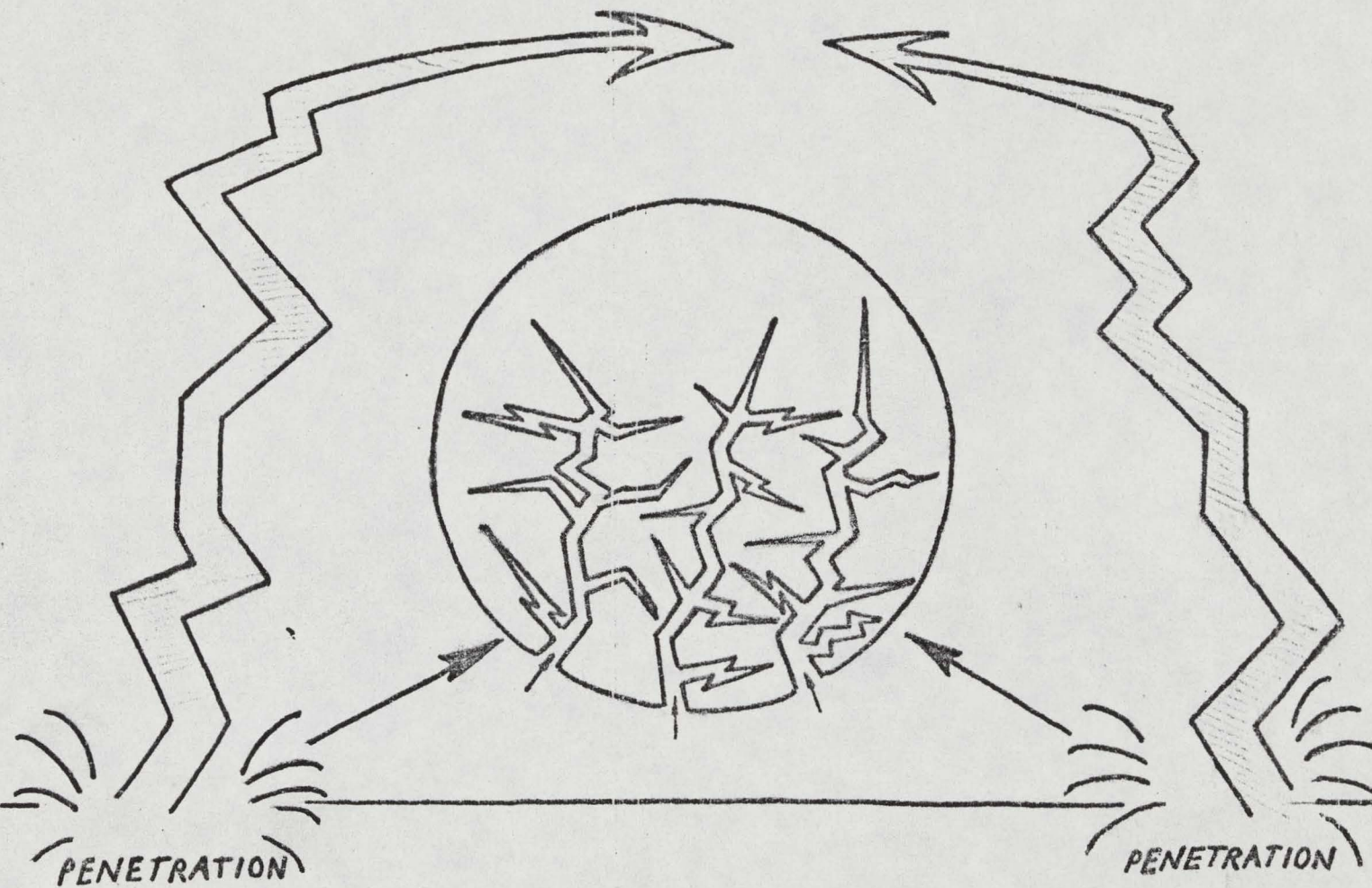
Idea

- Conquer an entire region in the quickest possible time by using initial surprise coupled with fast tempo/fluidity-of-action and cohesion of armored teams as basis for quick concentration and shifting of attack and follow-on echelons against an adversary's command, communications, and support structure in order to confuse, disorder, and finally shatter his will or capacity to resist.

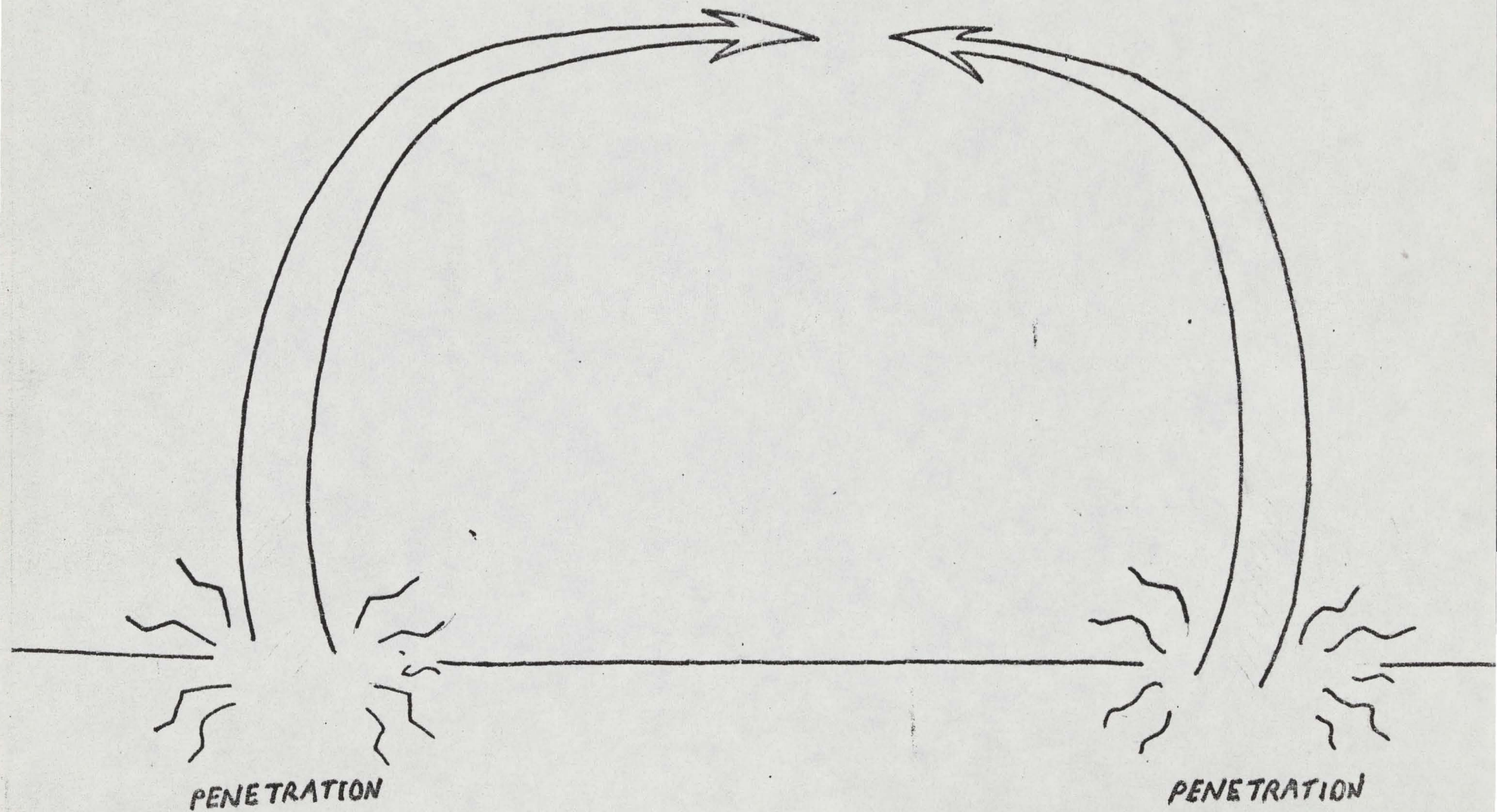
IMPRESSION OF THE BLITZKRIEG PENETRATION



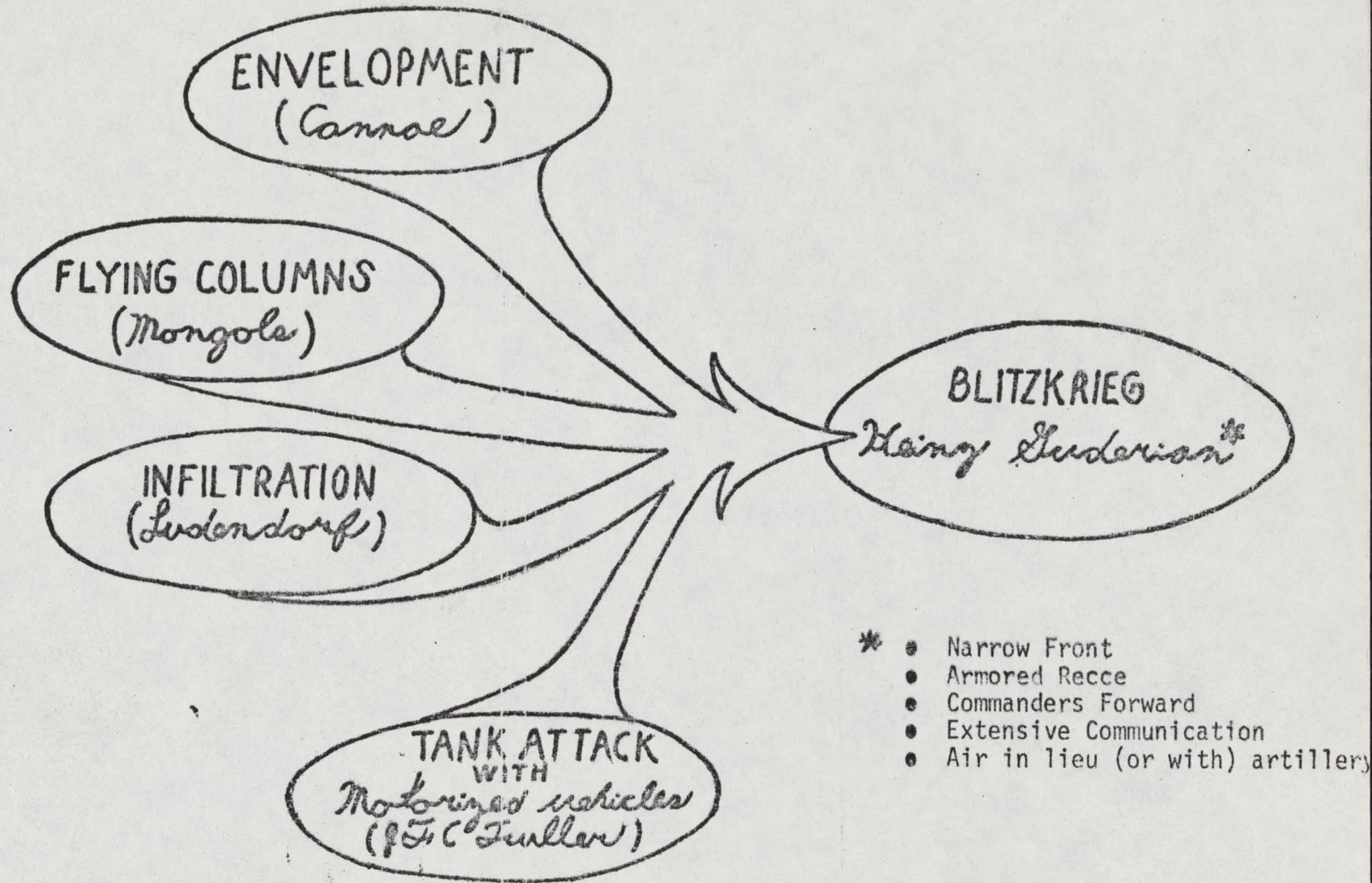
Impression of the Lincer (Envelopment)



Typical Impression of Blitzkrieg Envelopment



Creation of the Blitzkrieg



WORLD WAR II

Blitzkrieg

Key to Success

- Initial surprise coupled with fast tempo/fluidity-of-action and cohesion of armored teams to permit repeated and rapidly shifting concentration of strength against weakness thereby generate doubt and uncertainty which magnify into panic and chaos.
- Decentralized command with wide freedom for lower level combat leaders (forward) to exploit opportunities generated by rapid action within a broad loosely woven scheme laid down from central command.
- Superior mobile communications to maintain cohesion of overall effort and to enable higher command levels to allocate reserves and support and to shift center of overall action.
- Essential and only essential logistics tail to support high speed movement and rapid shift among routes of advance.

THE MODERN GUERRILLA CAMPAIGN

Action

- Capitalize on corruption (real or imagined) and unwanted presence of existing regime to organize and maintain mass popular support through a militant political program.
- Set-up administrative and military organization, sanctuary and communications network under the control of the guerrilla political leadership without arousing regime's intelligence and security apparatus.
- Probe and test, by infiltration of regime political/military organization, to uncover strengths, weaknesses and intentions.
- Employ tiny cohesive bands for sudden hit-and-run raids against lines of communications (go gain arms and supplies) but retreat and melt into environment when faced by superior police and armed forces.
- Force regime into harsh anti-population reprisal and suppression measures.
- Harass ever larger government concentrations (in front, flank, and rear) with ever larger bands by ambush against supply columns and patrols and by infiltration or sneak attack against isolated strongpoints. Disperse to avoid open combat or a major assault by superior forces.
- Demonstrate regime's weakness by carefully selected attack against major force units using methods of conventional warfare.

Idea

- Defeat existing regime by politically challenging the right and ability to govern and militarily by continuously using stealth/fast tempo/fluidity-of-action and cohesion of small bands as basis for dispersion, concentration and shifting of forces to harass, confuse and ultimately destroy his will or capacity to resist.

MODERN GUERRILLA CAMPAIGN

KEY TO SUCCESS

- Support of population (both psychological and physical) that willingly furnishes recruits, intelligence, transportation, shelter, refuge, food, money and medical aid.
- Ability to continuously demonstrate government weakness and force government to harsh anti-population measures.
- Fast tempo/fluidity-of-action coupled with cohesion of tiny bands and environmental background as basis for "never affording a target" and "never on the defensive except by accident and in error."
- Sanctuary (or base) as safe area to which guerrillas "can retire, voluntarily or involuntarily, for rest, recuperation, repair of arms, clothing, and equipment, and where recruits can be indoctrinated, trained and equipped."

BLITZ RESULTS

Successful

- Poland 1939
- France 1940
- Balkans 1941
- Russia 1941
- North Africa 1941-42
- Russia Summer 1942
- Russia Feb-March 1943
- Advance Thru France 1944
- Manchuria 1945
- Middle East 1967
- Middle East 1973

Unsuccessful

- Russia Winter 1941-42
- Russia Fall, Winter 1942-43
- North Africa 1942
- Russia Summer 1943
- Ardennes Winter 1944-45

GUERRILLA RESULTS

Successful

- American Colonies 1775-81
- Spain 1808-14
- Russia 1812
- German East Africa 1914-18
- Arabia 1916-18
- China 1927-49
- Russia 1941-45
- Yugoslavia 1941-45
- Indochina 1945-54
- Algeria 1954-62
- Cuba 1956-59
- South Vietnam 1958-75

Unsuccessful

- Philippines 1899-1902
- South Africa 1900-02
- Greece 1944-49
- Philippines* 1946-54
- Malaya* 1948-60

* Regime exercised particular care not to inflict casualties and to protect population.

? KEY QUESTION ?

- Why have Blitz and Guerrilla Warfare been so extraordinarily successful?

FUNDAMENTAL MESSAGE

Action

- Blitz and Guerrillas repeatedly and unexpectedly hurl strength against weakness by being able to move and shift more quickly and to concentrate or disperse more quickly from or to lower levels of distinction (organizational and environmental) without losing cohesion of overall effort.
- Put another way, Blitz and Guerrillas "get inside adversary's" Observation-Decision-Action or Mind-Space-Time framework.

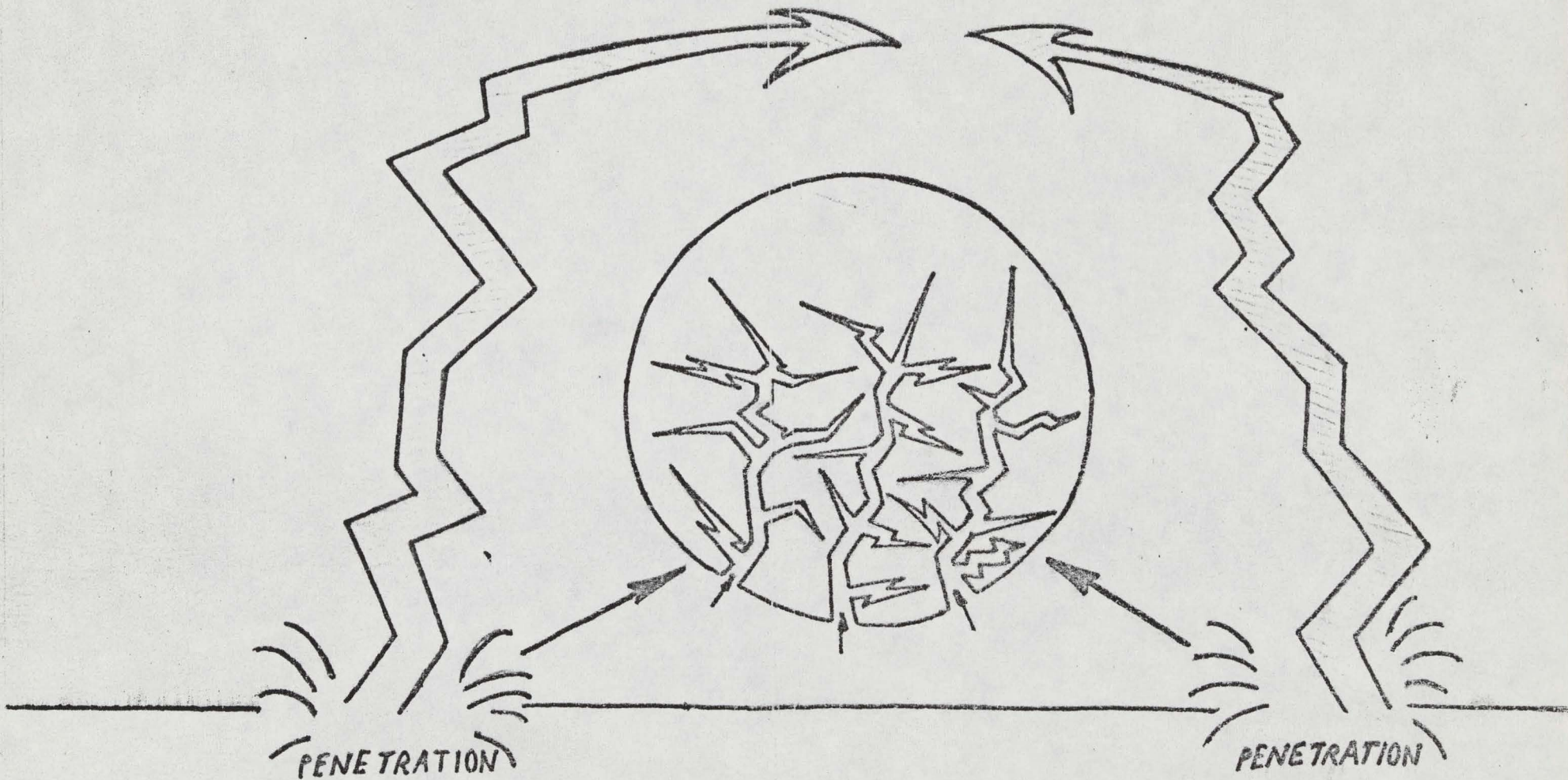
Result

- Such activity by Blitz and Guerrillas make them appear ambiguous (unpredictable) and awesome which magnifies into confusion, disorder and panic among their adversaries -- a notion implied by Sun Tzu around 400 BC and more recently recognized by J.F.C. Fuller after observing the impact of Ludendorf's infiltration tactics in 1918.

?NATURAL QUESTION?

How can we defend against or counter the Blitz?

"Where are the Weaknesses
of the Blitz?"



KEY POINT

Difficult to sustain fast tempo and maintain cohesion of Blitz effort when forced to repeatedly and rapidly shift concentration of strength against weakness -- in order to strike adversary's command, communications, and support structure.

COUNTER-BLITZ

Action

- Screen of forward outposts and patrols to report on adversary activity and warn of any incursion.
- Fast moving armored reconnaissance teams, working with air, make contact to determine strength/direction of thrust and continuously harass by repeated delaying actions and hit-and-run attacks in order to erode cohesion and slow momentum of Blitz attack.
- High speed mobile anti-tank infantry/armored teams, with close air and artillery support, inconspicuously move-in to stiffen favorable defense positions and combine the ambush with repeated sudden/sharp (but short) flank counter-attacks to break-up cohesion of thrust and drain away momentum of Blitz offensive.
- Swift armored combat teams, held in reserve, in cooperation with air, concentrate to rapidly drive a shallow and/or deep flank counterstroke in order to envelop and destroy Blitz offensive in detail (counterstroke launched while adversary is moving forward).

Idea

- Smash Blitz offensive by inconspicuously using fast tempo/fluidity-of-action and cohesion of counter-Blitz combat teams as basis for quick concentration and shifting of forces to harass, shatter Blitz cohesion and finally envelop it in order to destroy adversary's capacity to resist.

NOTE

Counter-Blitz imposes a greater stress than Blitz upon the cohesion of friendly combat teams -- however results gained can far outweigh those of Blitz offensive.

PATTERN FOR SUCCESSFUL OPERATIONS

- Goal
- Plan
- Action
- Support
- Command

PATTERN FOR SUCCESSFUL OPERATIONS

- Goal

- Deprive an adversary of his capacity for independent action.

- Plan

- Probe and test adversary to unmask strengths, weaknesses and intentions.
- Shape adversary's perception of the world to manipulate or undermine his plans and actions.
- Select initiative (or response) that is least expected.
- Pursue direction which permits many branches and threatens alternative objectives.
- Move along path of least resistance (to reinforce success).

- Action

- Exploit ability to observe, decide and act (or move, shift, concentrate, and disperse) more inconspicuously and more quickly, without losing cohesion of overall effort, as basis to repeatedly and unexpectedly hurl strength against weakness.

- Support

- Superior mobile communications
 - Only essential logistics
- } to maintain cohesion of overall effort and sustain appropriate pace of operations within available resources

- Command

- Decentralize, in a tactical sense, to encourage lower level commanders to shape, direct, and take the sudden/sharp actions necessary to quickly exploit opportunities as they present themselves.
- Centralize, in a strategic sense, to formulate policy, sketch flexible plans, allocate resources, and shift center of overall action.

ILLUMINATION

Key

- The ability to Observe, Decide and Act more inconspicuously and more quickly
or put another way
- The ability to get inside adversary's Observation-Decision-Action events or Mind-Space-Time framework

permits
one to:

Opportunities

- Probe and test adversary to unmask strengths, weaknesses, and intentions
- Shape adversary's perception of the world to manipulate or undermine his plans and actions
- Select initiative (or response) that is least expected
- Pursue direction which permits many branches and threatens alternative objectives
- Move along path of least resistance (to reinforce success)
- Hurl strength against weakness
- Generate uncertainty, confusion, disorder, panic, chaos, ...
- Become an extraordinary commander

PATTERNS OF CONFLICT

Reveal

An Asymmetric Fast Transient Conception
of Tactics and Strategy