STUDY PROJECT

ARMY AVIATION DEEP ATTACK ROUTES: PLANNING AND SELECTION

BY

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I explore the planning and selection of the air routes that will allow army aviation units to cross the FLOT, execute operations in the enemy's rear areas, and return with a minimum risk to the force. There are currently many opinions on what constitutes "cross-FLOT" and/or deep attack and how this should be accomplished. Doctrinal manuals address the subject in general terms only. There is considerable difference of opinion as to where, at what level of command, the planning should be accomplished. I describe for the reader the planning at the corps/division level, the aviation brigade and the attack battalion.

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I think there are three KEY factors in the deep attack planning cycle; intelligence collection, TIME and deep attack planning expertise. Each level of command has access to one or two of these key factors, but not all three. I propose that TIME is the most critical of these factors. I further propose that in the interest of time, the planning must take place simultaneously at all three levels. I offer a solution. I further propose that the selection of the route, can best be accomplished with a series of "Templates". These are: terrain, enemy forces, surveillance radar and air defense weapons coverage, day and night. These templates when superimposed will reveal the best route through the enemy defenses. A spin-off is that this technique will also identify targets for jamming, suppression or destruction.

USAWC MILITARY STUDIES PROGRAM PAPER

ARMY AVIATION DEEP ATTACK ROUTES: PLANNING AND SELECTION

AN INDIVIDUAL STUDIES PROJECT

by

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CHAPTER ONE

PURPOSE

The purpose of this paper is to explore the selection and the planning of the air routes that will allow army aviation units to cross the FLOT, execute operations in the enemy's rear areas, and return with a minimum of risk to the force. There are currently as many opinions on what constitutes "cross-FLOT" and/or deep attack and how this should be accomplished as there are aviation commanders, former and current. Doctrinal manuals address the subject in general terms only. Articles have been written suggesting that the planning must be accomplished at the highest level possible. Personal experience tells others that the planning should be accomplished at the lowest level possible. I will look at planning at the corps/division level, the aviation brigade level and the attack battalion. There are three key factors influencing deep attack planning and each level of command has access to one or two of the factors, but not all three. I will propose that the planning be accomplished simultaneously at all three levels, with each level concentrating on their particular strength.

CHAPTER TWO

INTRODUCTION

The deep operations component of air-land battle doctrine contributes to the overall campaign and tactical plans by delaying, disrupting, and destroying the enemy's uncommitted forces. These actions isolate the enemy from close operations, prevent its massing, and allow U.S. close battle forces to defeat the enemy. Additionally, deep operations create windows of opportunity to seize (defensive operations) or retain (offensive operations) the initiative and can thereby defeat the enemy's plan.[1]

Army Aviation will be expected to play a major role in any future conflict, across the continuum, and can be particularly effective in the attack of follow on forces. Follow-on Forces Attack (FOFA) is described in JCS TEST PUB 3-03.1, Joint Interdiction of Follow-on Forces [Follow-on Forces Attack, (FOFA)] as the

> attack of uncommitted enemy ground forces not yet engaged in the battle, the logistics and other support forces sustaining them, the command and control communications centers used to direct their movement and deployment, and the locations through which these forces move and from which they are supported.[2]

The attack of these forces is described as an operational level interdiction concept at one point in the manual.[3] It is later described as the attack of uncommitted enemy forces to the immediate rear of forces in contact.[4] The forces immediately to the rear of forces in contact are clearly in the division and corps commanders area of influence. FOFA for the operational level commander and the deep attack for the division and corps commanders can be best executed by aviation, either alone, or in concert with other forces.

The soviet style doctrine for employing follow-on forces emphasizes superior numbers, echelonment, and an offensive strategy. This doctrine requires flexibility at the operational level, conformity at the tactical level, highly detailed plans, time lines, complex movement, and swift commitment of follow-on forces. The doctrine aims at achieving success by the continuous application of follow-on forces to the close battle, eventually overwhelming the defender. In order to achieve victory, follow-on forces must be programmed to arrive at the right time and place in a combat ready condition. Any interruption of this sequencing will degrade the effectiveness of the follow-on forces and hence the attack. FOFA operations are aimed at posing as many problems as possible to complicate the enemy's already complex movement and employment plans.[5]

The deep battle against enemy forces not yet in contact will be critical to the success of the close battle, defensive or offensive. The time-sequencing for the second-echelon forces must be disrupted and their lines of communications severed. The aviation brigade's speed, mobility, flexible organization, and exceptional firepower make it an ideal combat force to conduct or support deep operations.[6]

DIVISION

The division commander has several limited range deep battle assets. They are; Aviation, EW assets, artillery, and the multiple launch rocket system (MLRS). Aviation is the only weapon in the division commander's arsenal that can conduct the division deep battle in the area from 30 to 75 kilometers beyond the FLOT (the approximate distance where the corps commander will pick up the deep battle).

CORPS

> LTG Crosbie E. Saint and Col Walter H. Yates, in their article, Attack Helicopter Operations in the Airland Battle: Deep Operations, offer, " A case might well be made that deep operations--by attack helicopters --should be executed by corps assets because of the extensive planning, intelligence, SEAD (suppression of enemy air defenses), jamming, deception and training required."[7]

Aviation is the corps commander's primary instrument for projecting combat power. Other assets currently "owned" by the corps commander and capable of reaching the enemy deep are the Lance and the electronic warfare elements.

THEATER

The Air Force is the operational level commander's primary FOFA force. Army aviation could support the operational commander, if tasked, to depths in excess of 300 kilometers with the emploment of deep FARP's or by utilizing extended range fuel tanks on the AH-64's, UH-60's, and CH-47's.

Chapter two

End Notes

1. U.S. Department of the Army. Field Manual 1-111, Aviation Brigade, p. C-1.

2. Joint Chiefs of Staff. JCS TEST PUB 3-03.1, Joint Interdiction of Follow-On Forces [Follow-On Forces Attack, (FOFA)], p. I-3.

3. Ibid., p. I-1.

4. Ibid., p. I-4.

5. Ibid., p. II-2.

6. FM 1-111, Aviation Brigade. p. C-1.

7. LTG Crosbie E. Saint and Col Walter H. Yates, "Attack Helicopter Operations in the Airland Battle: Deep Operations," Military Review, July 1988, p. 9.

CHAPTER THREE

SETTING THE STAGE

Some Army aviators define cross-FLOT as being on the enemy side of the FLOT, but within the range of friendly artillery. These aviators further define deep attack as being on the enemy side of the FLOT beyond the range of friendly fire support. This definition may work well with the heavy divisions and corps in a mid to high intensity conflict. But, what about our light forces and low intensity conflict?

Light forces could be expected to fight on the non-linear battlefield where the FLOT is difficult, if not impossible, to define. In this type of an environment, penetration of the FLOT may not be penetration at all, but rather infiltration. Operation "Just Cause" in Panama recently is a good example of the non-linear battlefield.

To avoid confusion and to place the readers of this paper on a common footing it will be necessary to define some terms and areas of operation.

For the purposes of this paper cross-FLOT and deep attack will be synonomous. They will further be defined as "operating over terrain considered to be held by the enemy."

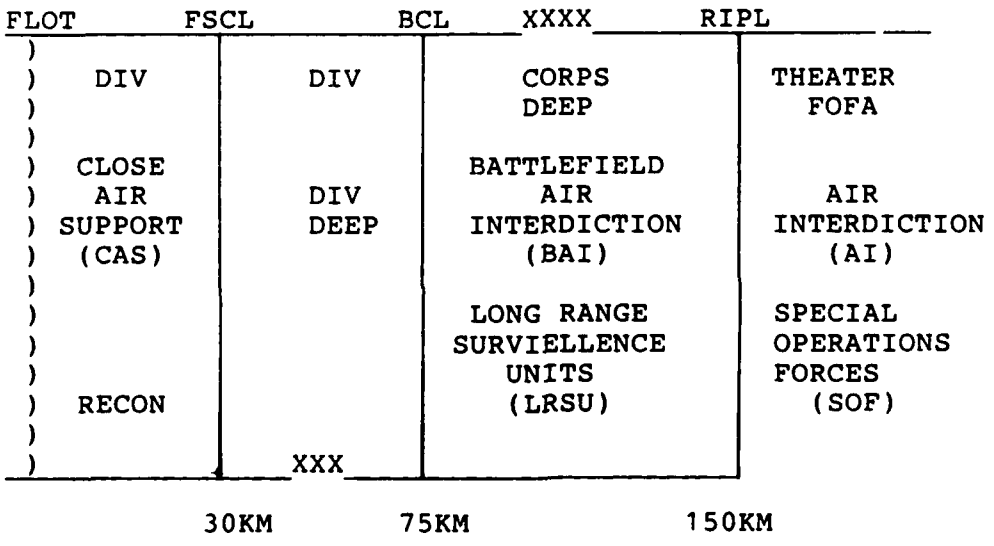
Deep boundries are classified as fire control and maneuver boundries.[1]

Other defintions required to set the stage:

FLOT, a NATO term for forward line of own troops;
FSCL, the fire support coordination line, normally established by corps;[2]
BCL, battle coordination line, also established by corps and used to define areas of responsibility; and,
RIPL, another NATO term for reconnaissance and interdiction phase line, established by the army group commander that establishes the forward edge of the corps area of operations and is a fire control measure.

The use of these terms in conjunction with lateral boundries can easily be used to define areas of responsibility. They are already used to define areas of responsibility for NATO air forces and special operating forces.

The area from the FLOT to the FSCL is the responsibility of the Division Commander. The corps commander may establish a BCL if he wants the division commander to be responsible to a greater depth. The area between the FLOT and the BCL, if established, is the division commander's area of operations.



The RIPL is normally established 100 to 150 kilometers in front of the FLOT. The area from the BCL to the RIPL is the corps commanders area of operations. Beyond the RIPL belongs to the theater commander.

Chapter Three

End Notes

1. LTG Crosbie E. Saint and Col Walter H. Yates, "Attack Helicopter Operations in the Airland Battle: Deep Operations," Military Review, July 1988, p. 8.

2. U.S. Department of the Army. Field Manual 101-5-1, Operational Terms and Symbols, p. 1-32.

CHAPTER FOUR

GENERAL PLANNING CONSIDERATIONS

Accurate and timely intelligence is the single most important factor in planning and executing a cross-FLOT operation. While the value of a proper intelligence preparation of the battlefield (IPB) cannot be underestimated, it is the access to real time intelligence that can make the difference between success and failure. The traditional "key terrain" objective frequently found on an operations overlay does not apply here.

The properly planned deep attack targets the force to be interdicted.

Simply targeting the force is not enough. We must target him when he is most vulnerable. During daylight hours, we expect follow-on enemy forces to occupy assembly areas. This would be the most difficult time to attack them. The next most difficult targets are those forces deployed in combat formations.

The most lucrative targets are those enemy forces strung out in tactical and administrative marches under an area air defense umbrella.
LTG Crosbie E. Saint

The object of our planning is to time the attack so the targeted force and the attacking force arrive at a preselected location (engagement area) at a predetermined time. Hence the planning is by necessity a backward planning sequence striving to place the two forces together in time and space.

The corps or division commander must first select the enemy force he wishes to attack deep; the second echelon regiments of the first echelon divisions (division deep attack) or the first echelon regiments of the second echelon divisions (corps deep attack). The target may be fuel, ammunition storage areas, or the Independent Tank Regtiment. Once the target has been identified (normally 24 to 72 hours out) the operations and intelligence personnel must work hand-in-hand to select appropriate engagement areas on the anticipated route of march of the target. It is not enough to pick an engagement area based on terrain, cover and fields of fire. It must also be timed to occur at night or perhaps in marginal weather, if at all possible. The enemy can be expected to offer some assistance. Those forces we would normally wish to attack would be moving at night to avoid interdiction by our air forces.

The planning considerations espoused in FM 1-111, Aviation Brigade and in the supporting FM's, 1-112, Attack Helicopter Battalion or 1-113, Assault Helicopter Battalion are sketchy and incomplete. Appendix C, Deep Operations, FM 1-111 states that the organizations involved in premission planning are;

"higher headquarters and the aviation brigade."

Stated tasks for the higher headquarters are: risk analysis, focus of intelligence assets, allocate forces, prepare OPORDs and CSS plans.

One of the many planning tasks stated for the aviation brigade is to;

"provide airspace management and control procedures to subordinate units."

Planning must take place, frequently simultaneously, at all levels from corps/division through the company level.

The deep attack planning sequence is extremely time sensitive. This fact was not well understood before the advent of the AH-64 and the proliferation of computer wargames.

EVOLUTION

Deep "raids" were being planned and conducted as training events in the early 1980's with the AH-1S "Tow" Cobra. These deep attacks were initially conducted during daylight as very few crews were trained in night vision goggles (then full face AN/PVS-5's). As more crews became trained, the attack would take place at dawn or last light, the attacking force penetrating the FLOT in darkness on ingress or egress. The factor that limited the Cobra to daylight firing was the Tow missile sight. This is still the case in 1990. Night telescopic sight units (TSU's) have not been purchased for the Cobra.

Doctrine is a process of evolution. The AH-64 Apache was in the process of fielding, with the first unit becoming operational in July 1986, the same month these manuals were published. The AH-64 has added a dimension to combat that could not be fully understood until the first corps brigade completed fielding in 1987. Since that time,numerous exercises, including Reforager '87, and division and corps level Battle Command Post Training (BCPT) simulations have demonstrated just how time sensitive planning the deep attack and affecting the necessary coordination is. During the actual attack, it is **CRITICAL** that all of the necessary corps/division assets are focused to support the deep battle.

Chapter Four

End Notes

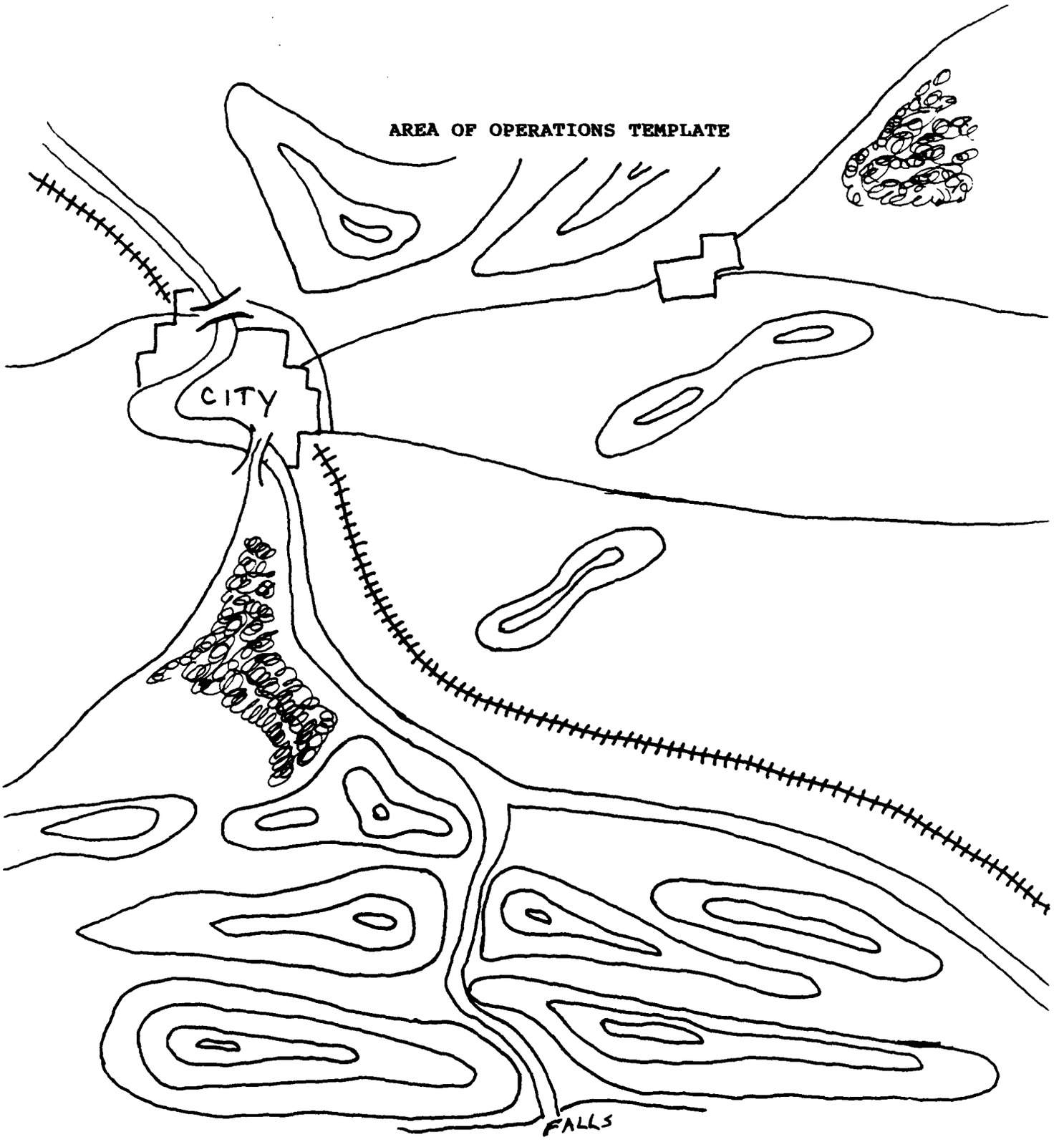
1. LTG Crosbie E. Saint and COL Walter H. Yates, "Attack Helicopter Operations in the Airland Battle: Deep Operations," Military Review, July 1988, p. 5.

CHAPTER FIVE

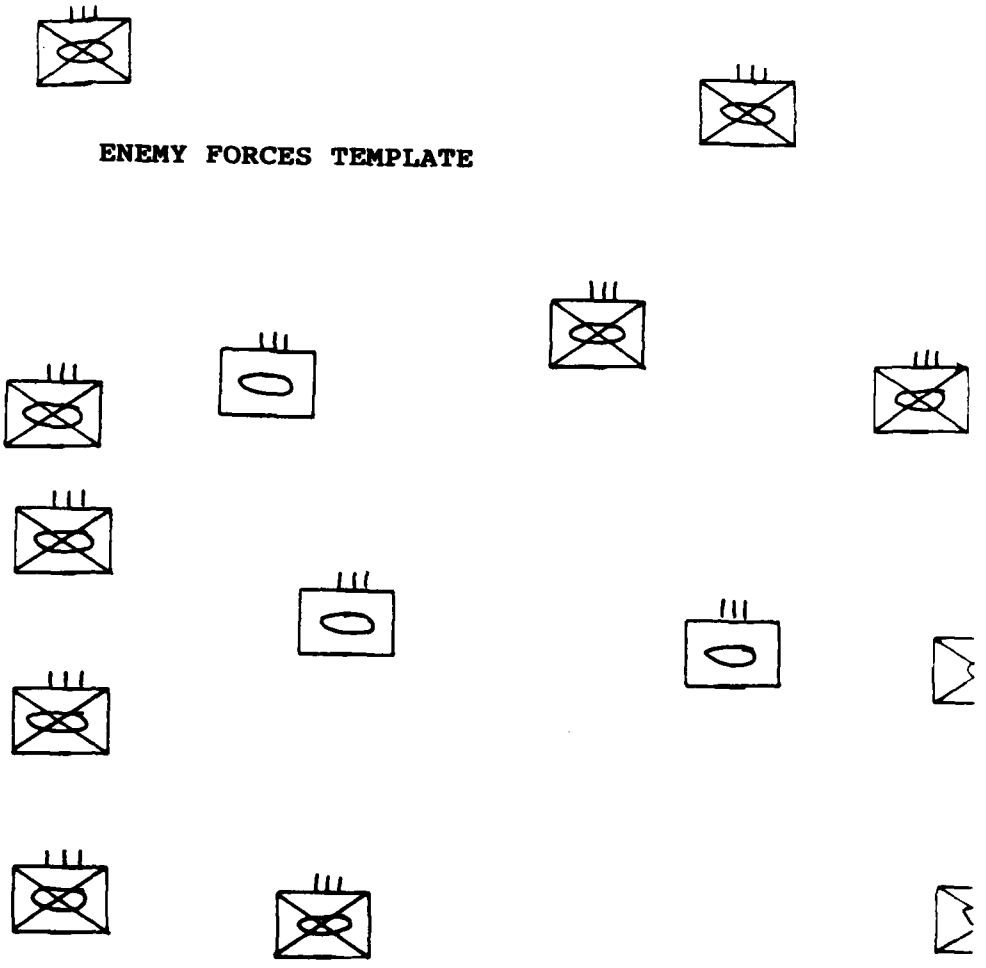
ROUTE SELECTION

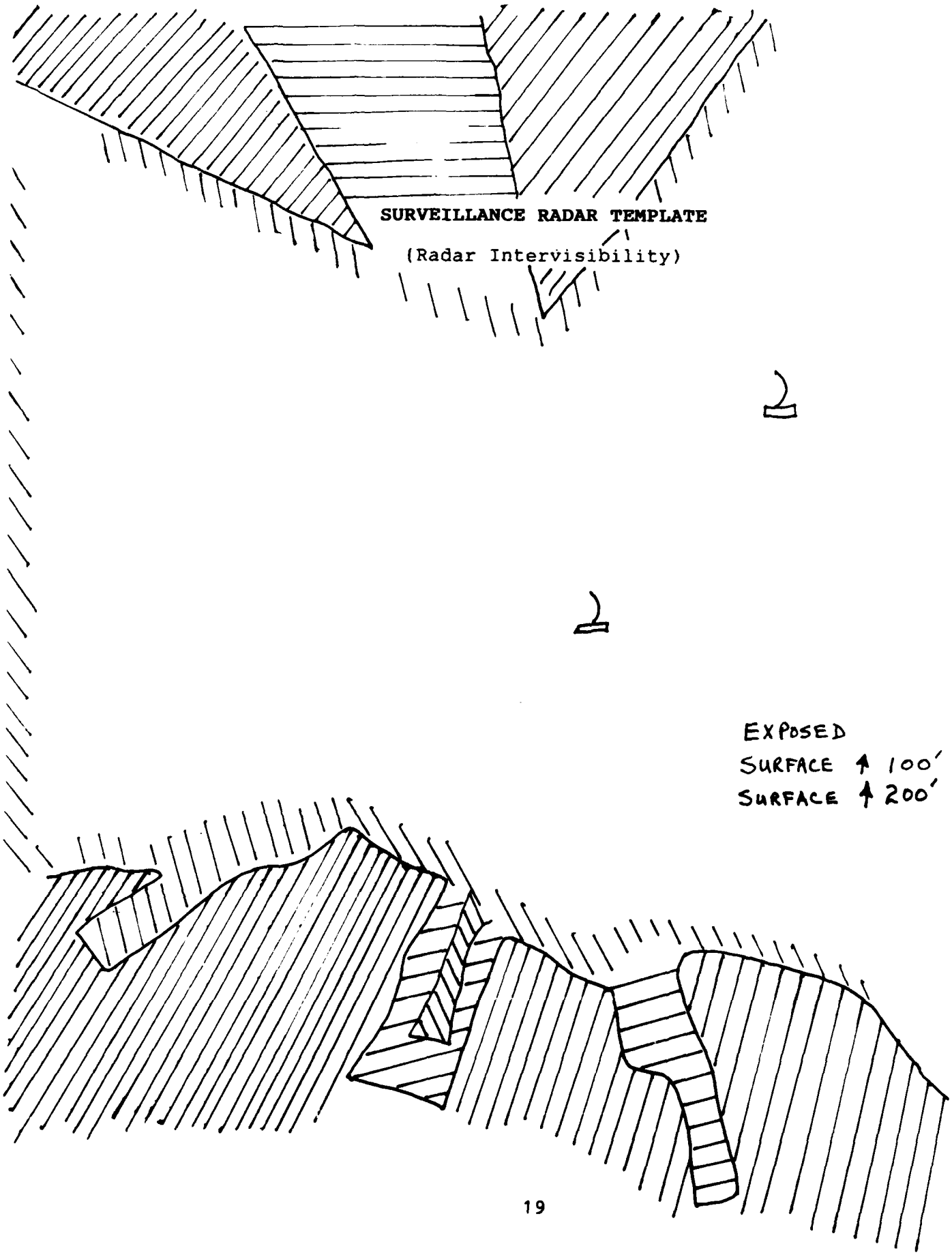
There are many factors to consider when selecting a route from the staging areas in the Corps rear to deep in enemy territory. I propose to use a series of templates to find the "best" route. The templates I will depict are; terrain, enemy forces, radar coverage (and lack of coverage - "safe zones") and air defense coverage (and lack of coverage - cover). The first view of the battlefield will be from above as we study the maps of the area. It will also be necessary to look at the battlefield from the side or as we will see it from the cockpit in the Nap-of-the-Earth (NOE) environment. It is absolutely necessary to explore an air defense template of the "night battlefield" as certain daylight systems become degraded by darkness and create more "holes" in the air defense umbrella.

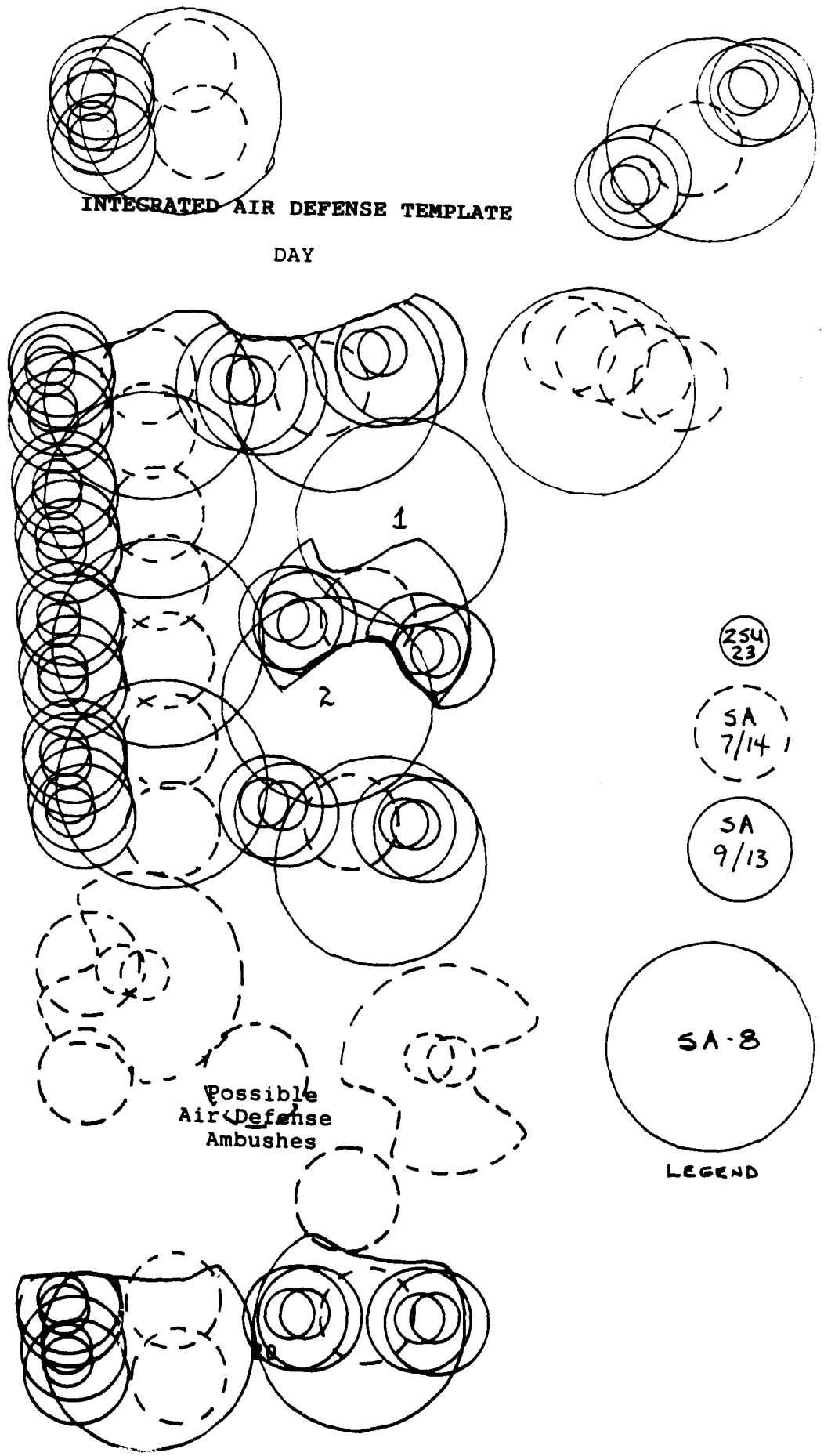
It is extremely important to remember that it is not necessary to avoid all of the enemy capabilities. If we can avoid the majority of the most dangerous systems, it will minimize the number of systems we must deceive, degrade or destroy.

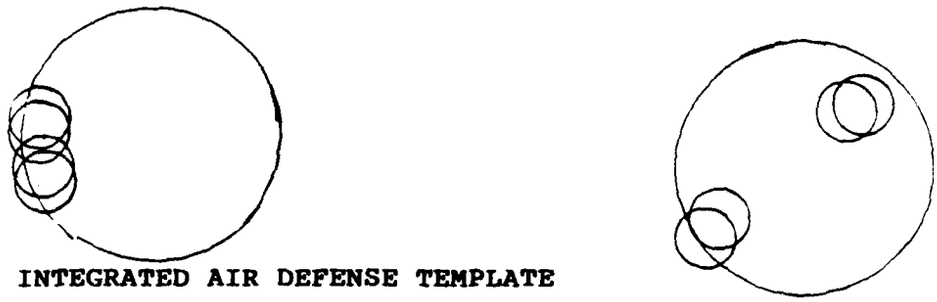

AREA OF OPERATIONS TEMPLATE
CITY
FALLS

ENEMY FORCES TEMPLATE



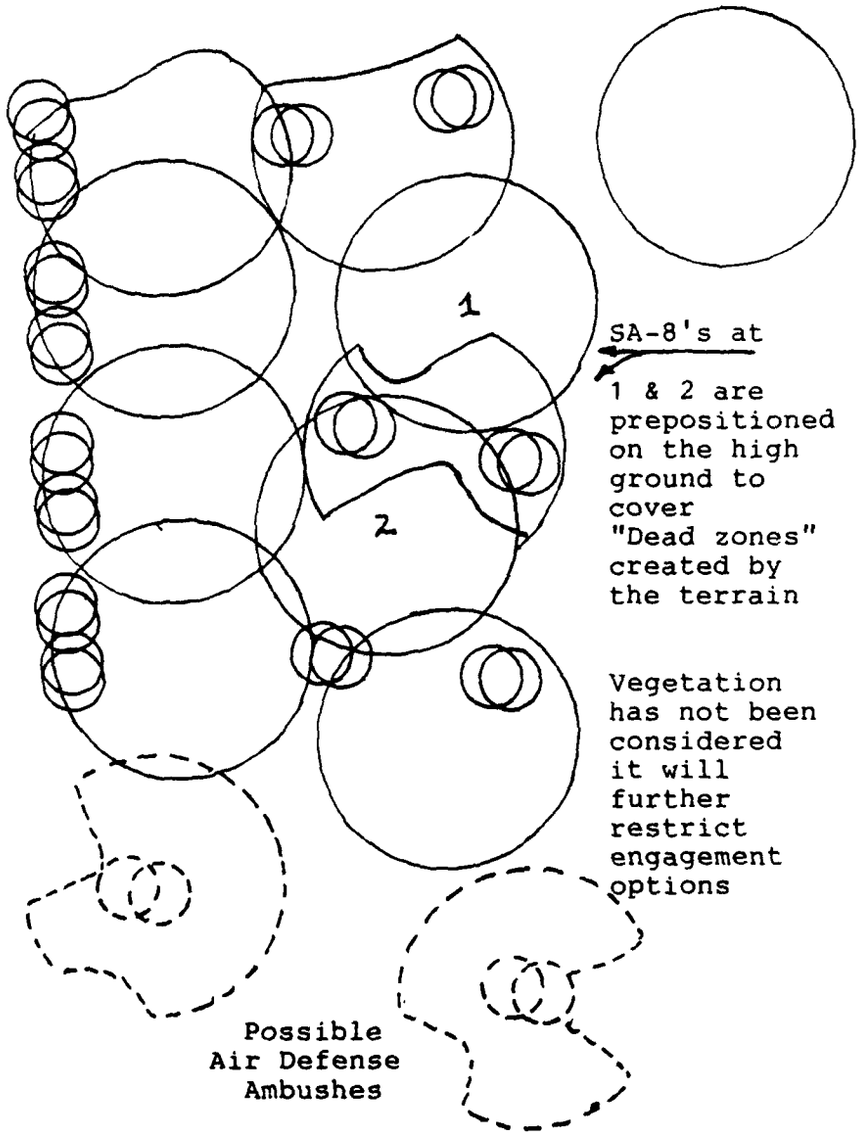

SURVEILLANCE RADAR TEMPLATE
(Radar Intervisibility)
EXPOSED
SURFACE ↑ 100'
SURFACE ↑ 200'

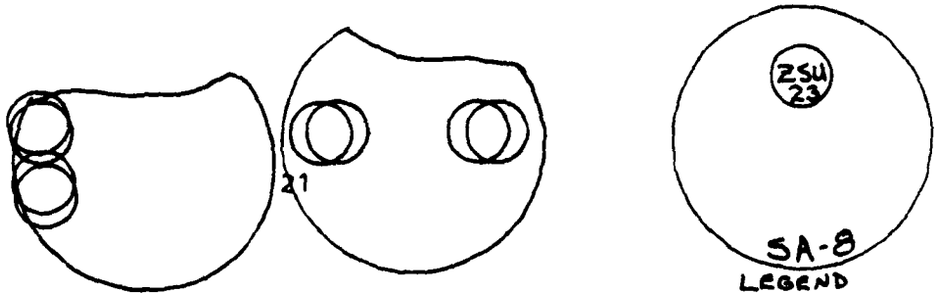

INTEGRATED AIR DEFENSE TEMPLATE
DAY
1
2
ZSU 23
SA 7/14
SA 9/13
SA-8
LEGEND
Possible Air Defense Ambushes



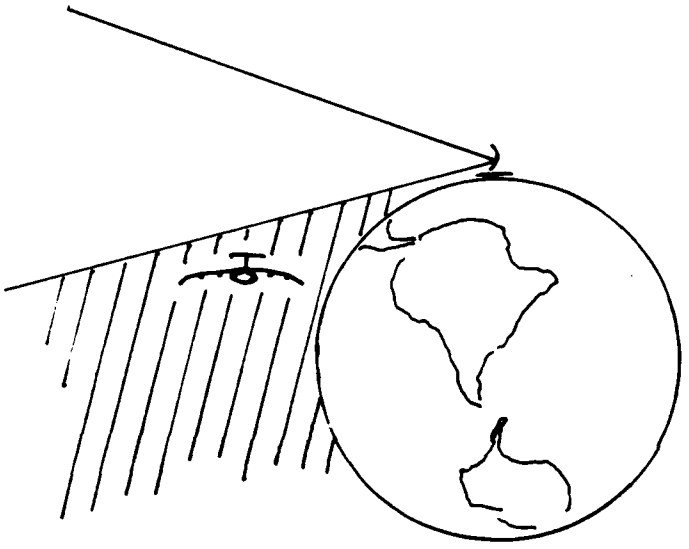
INTEGRATED AIR DEFENSE TEMPLATE

NIGHT





It is not enough to look at the battlefield from above (the horizontal). A view from the side (the vertical plane) is necessary. In 1492 Columbus proved the world to be round. The curved surface of the earth gives us some advantages when viewed in the vertical.

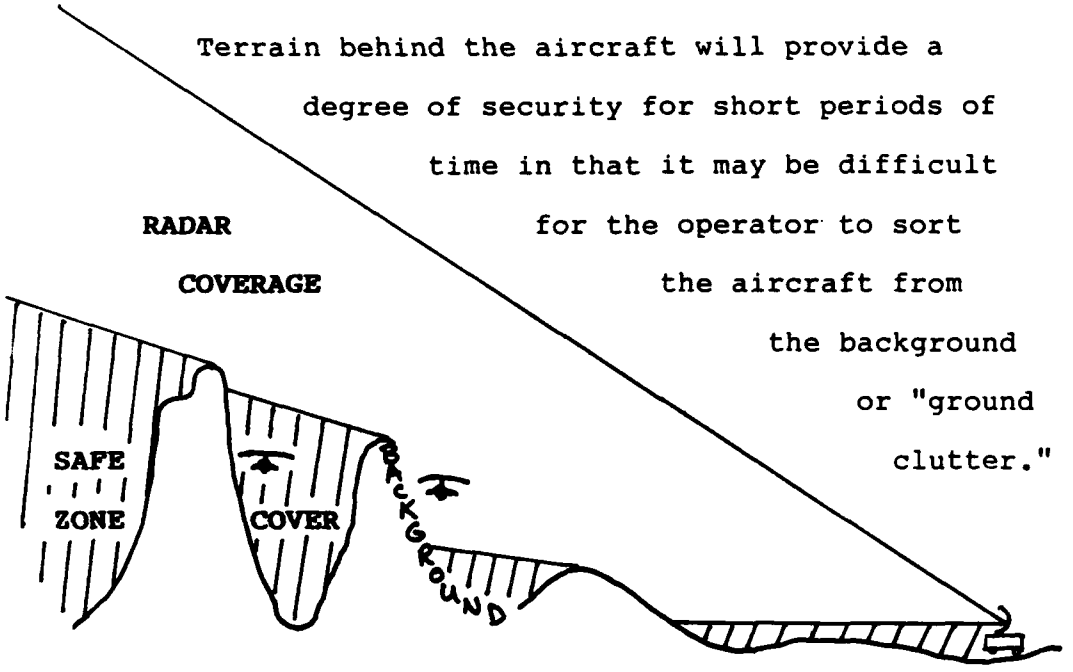


Ground based radar has a limited low level view. Aircraft flying "below the horizon" will not be seen.

During Operation "Just Cause," the Panama contingency, the vast air armada of C-130's, C-141's, KC-135's and KC-10's descended to 2,500 feet for the portion of the passage between Cuba and the Yucatan Pennisula. While this does not seem to be low it was sufficient to "fly under" the Cuban radar and thereby deny them acquisition.

The same principle is true on a localized scale. The curve is present, but is not as noticeable. There are other positive factors that come into play at the tactical level, also.

The folds, bends and vertical relief (hills, mountains, valleys and depressions to name a few) offer a significant advantage to the tactical aviator. This vertical relief creates identifiable "safe zones" in the enemy's radar coverage. In many instances these "safe zones" also provide "cover" from his weapons systems. Vegetation can screen line-of-sight and provide additional concealment.



Terrain behind the aircraft will provide a degree of security for short periods of time in that it may be difficult for the operator to sort the aircraft from the background or "ground clutter."

Perhaps the most capable staff officer available to identify "safe zones" is the communications officer. He routinely uses the technique of identifying dead zones in siting his line-of-site communications. The C-E officer can be a valuable asset in route selection; do not overlook his talents.

There are numerous variables in dealing with radar. On the "plus" side (for our purposes) are;

"Safe Zones",
Ground Clutter,
Back Scatter,
False Targets,
Poor Operator Proficiency.

These variables can work in our favor, if we do a thorough preparation of the battlefield. The "safe zones" when combined with areas of identifiable "ground clutter" will provide the routes we seek.

On the negative side (working against us) are;

Airborne "Downlooking" Radar,
Pulse-Doppler type radar,
MTI - Moving Target Indicators.

It is essential that the combat aviator not fear these capabilities, but rather study and understand the strengths and weaknesses of each system. The first choice in dealing with radar is to treat it as a weapons system. The surveillance radar is probably more dangerous in that it "see's" farther and "hands-off" the targets to the individual enemy weapons systems. Weapons systems denied

a radar interface are severely degraded. As with a weapon system, radar avoidance is the key. To assist in avoidance it is critical that "safe zones" be identified and utilized. This identification process will also provide us with key SEAD targets, particularly electronic warfare (EW) targets.

Radar avoidance is not the only option. Radar can be deceived with false target generation or chaff. Jamming identified sites and signals can degrade effectiveness. Properly targeted, intense, short duration jamming, will allow the undetected penetration of enemy airspace. Destruction of the radar with indirect fire (Artillery, MLRS or Lance depending on depth), Air Force assets (Wild Weasel or Tacit Rainbow as it is fielded) or our own direct fire is another alternative. Direct fire by the deep attack force is the least desirable as it diverts assets from the primary target.

When the Israeli's attacked the Beka Valley in June, 1982, they first accomplished the destruction of the surveillance radar on the hills overlooking the sea approaches to Lebanon. The radar sites were destroyed by TOW missiles fired by AH-1S Cobras in a daring daylight raid. The sites were protected by 23mm guns which were firing on the hovering, completely exposed aircraft throughout the TOW engagements. The Cobras used their superior standoff range (TOW 3750 meters vs. 23mm 2500

meters optically or 3000 meters with radar) to destroy the radar sites. The air to the front of the hovering helicopters was filled with exploding 23mm rounds and the ocean below was frothing with the shrapnel from the exploding rounds. There is no doubt that it took nerves of steel and a great deal of confidence in premission planning to maintain a high hover over the open ocean in clear view of the enemy. Immediately upon verification of radar destruction, the Israeli Air Force attacked the SA-6 sites in the Beka Valley. Without the surveillance radar to pass target information, the SA-6 sites lacked the ability to protect themselves, much less the ground force. 16 of 18 sites were destroyed with no losses to the attacking force.[1]

The templating process, beginning on page 17 with the depiction of the terrain, allows us to better see the battlefield. The placing of enemy forces in tactically correct formations (should be verified and updated as actual enemy locations are known) is the all important next step. Not only must we avoid known enemy concentrations because of the firepower they possess (small arms, machine guns and tank main guns), but because of the air defense assets they "own". The positioning of the air defense radar and weapons is linked doctrinally to the parent units location. Therefore, the primary reason the deep attack force is concerned with the location of enemy units along

the FLOT is to determine the location of the supporting radar and air defense weapons.

The surveillance radar template on page 19 gives us the first real clue as to the best routes into the enemy rear areas. This template also provides SEAD targeting data as it should locate the radar that most threaten our route. These are ideal targets for jamming.

The air defense templates (pages 20 and 21) are directly related to unit locations, based on doctrine. These are extremely important as they display graphically (to scale) the actual, templated or suspected positions of the weapons systems and the range fans associated with each. It is important to template both the "night-time", all weather systems (radar directed - ZSU 23-4, SA-6, SA-8 and SA-11) and the daylight (optically acquired - IR or IIR missiles - SA-7/14 and SA-9/13) systems as they have very different capabilities and present a different threat.

The radar directed systems are potentially dangerous at all times. Each has weaknesses that can be exploited. For example, the SA-6 has a minimum engagement altitude of 150 feet and a minimum range of 4 kilometers. To defeat it stay low and attack from close-in. While this is an over simplified statement, it is an indication of the type of weaknesses to look for. The SA-8, on the other hand,

is extremely dangerous with a minimum engagement altitude of 30 feet and a proximity fuse. This makes it and the SA-11, an equally dangerous system, primary targets for our SEAD fires. It is important to give a high priority to suspected locations, also.

The "daylight" systems present a different set of problems. The most important is their proliferation on the battlefield. There are 93 of the shoulder fired SA-7/14's in a threat division. This weapon is similar to the U.S. stinger missile that worked so well for the Mujahadeen in Afghanistan. The other is the SA-9/13 vehicle mounted system[2], similar to the SA-7/14. Again, these are systems which must acquire optically (although the SA-13 has a range determining radar that can have LIMITED acquisition capability). The most effective way to deal with these "daylight" systems is to go at night and in periods of limited visibility. In a test conducted at the Joint Readiness Training Center (JRTC), trained gunners armed with the SA-7B were unable to acquire and "lock-on" an AC-130 "Spectra" gunship circling at 5000 feet in all light conditions below an 80% moon. They could acquire at that altitude when the moon was between 80 and 100 percent full. When the AC-130 was moved up to 7000 feet the gunners were unable to acquire at any night light level.[3]

During an XVIII Corps EDRE (Antelope Dancer) at Fort Hood, Texas in early 1988, the 82nd Airborne "jumped" in a deep FARP and the 3rd Squadron, 6th Cavalry Brigade, returning from a deep attack far to the west, "dropped in" for fuel at 2400 hours. The stinger equipped gunners on the LP/OPs providing the air defense for the FARP attempted acquisition of the squadron of AH-64's. They were unable to do so even though the aircraft were operating with dim position lights on (no anti-collision lights). When questioned, they said the aircraft were too quiet, too low and too fast for them to acquire.[4]

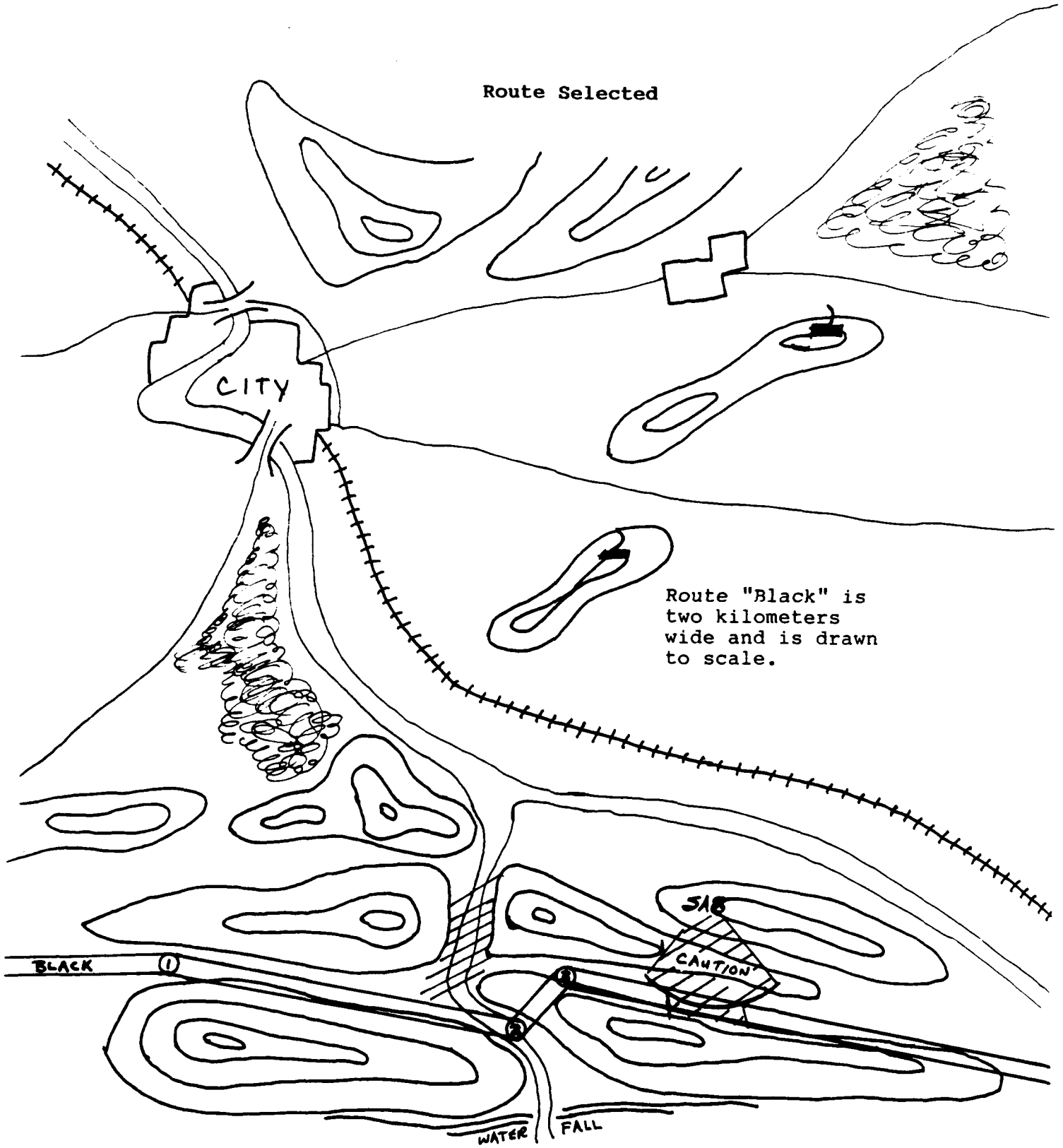
A comparison of the air defense templates for day and night reveals a significantly reduced threat at night. The Soviets also recognize the limitations of the night. They say that on a clear night, with a "high" moon one can recognize land relief and coloration up to 400 meters with the naked eye.[5] Their night vision devices do not significantly increase the distance they can see. The commander of a ZSU-23-4 can see 400 meters with his active infrared sight. The gunners on tanks and BMP's can see the farthest at 800 to 1000 meters with night vision devices.[6]

It is obvious to any who will look (and see) that there are significant advantages to be gained by attacking at night.

When the templates are superimposed the route through the southern mountains becomes better defined. Additionally, there is an area to the north that would allow (pending a look further to the north) an attack of enemy close forces, perhaps as a deception. The process of templating has identified a route, the priority targets for our SEAD plan and the portions of the route that are likely to be the most dangerous, should the SEAD plan fail.

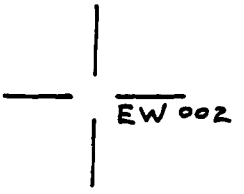
The Soviets recognize the unique problems of air defense units operating in mountainous terrain.[7] Therefore, they are likely to "see" this gap in their air defense network and attempt to close it. Understanding this, I have depicted probable "air defense ambush" sites. Most ambushes call for a pair of ZSU-23-4's working with several SA-7/14's. The SA-6 and the SA-8 are also recognized as having the mobility required to gain access to some areas. These locations will be hard to detect as they will not normally turn on their radar (giving away their hide positions) until they detect or are alerted to targets coming their way.[8] These suspected positions are primary targets for the destruction or suppression portion of our SEAD plan.

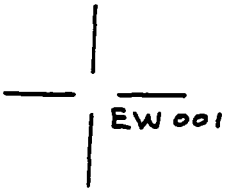
Templating has identified the deep attack route that best avoids the enemy strengths, has identified the primary targets for jamming and destruction or suppression.

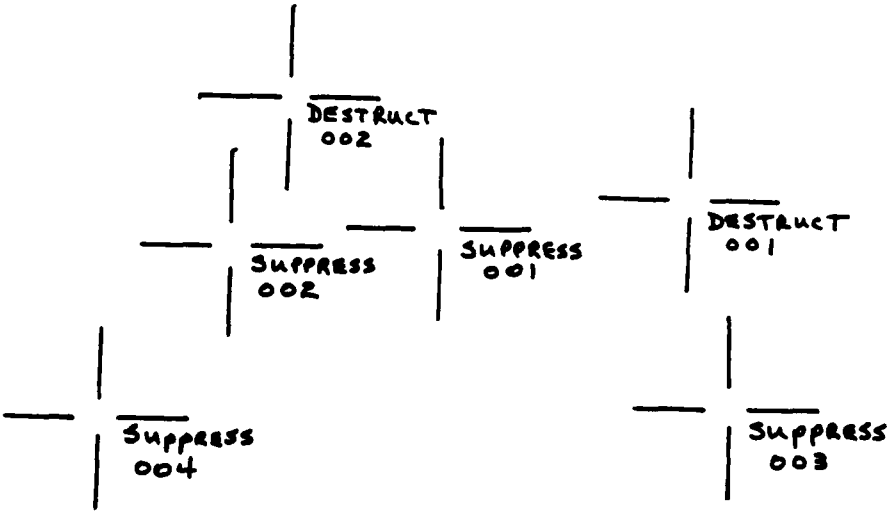

Route Selected
CITY
Route "Black" is two kilometers wide and is drawn to scale.
SAG
CAUTION
BLACK
1
2
3
WATER
FALL

Target Priority

Target priorities are depicted below as either an electronic warfare (EW) target or a target for conventional fires. The targets are further prioritized as requiring destruction or suppression. Destruction has the highest priority. Targets are sub-divided one step further. They are numbered, with number 001 having a higher priority than 002 and so on.

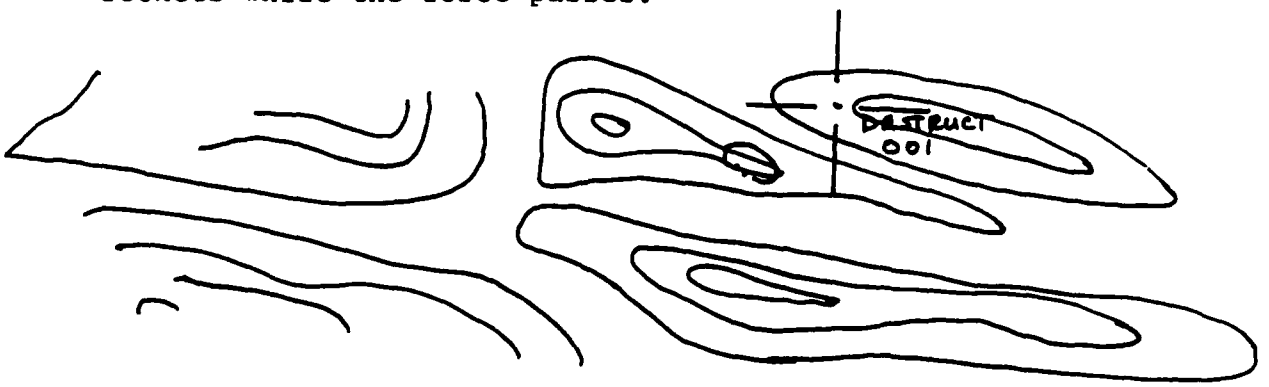






Pre-planned Direct Fire

When seeking a route using the templating process it is not necessary to avoid all of the enemy forces. I stated that direct fire by the attacking force was the least desirable option for destroying a threat. In this case it appears prudent to utilize 2 AH-64's, two minutes in advance of the deep attack battalions, to complete the destruction of the suspected SA-8 site marked destruction 001. It appears that the deep attack force can get through the caution area even if the site is not destroyed. The risk is high and so I would employ the AH-64's as stated above. They can confirm enemy destruction or no enemy at that location. If there is an operational SA-8 site, they can destroy it with Hellfire missiles prior to the arrival of the deep attack force. They can rejoin the force as it passes. If destruction is not possible, they can suppress with 2.75 Multi-purpose sub-munition (MPSM) rockets while the force passes.



Chapter Five

End Notes

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CHAPTER SIX

ROUTE PLANNING

In this chapter I will attempt to explore WHO should plan the deep attack route. "Who" translates to what LEVEL of command. Chapter four (general planning) has already described some of the factors the deep attack planner must consider. These will be reiterated only if they apply. Chapter five (route selection) is an obvious sub-set of route planning. Again, portions may be referenced, but only to clarify what level of command possesses the intelligence collection assets and expertise to accomplish the mission.

Three levels of command will be examined. From the bottom up, they are; the attack squadron/battalion, the aviation brigade and the division or corps.

Graphically Portrayed

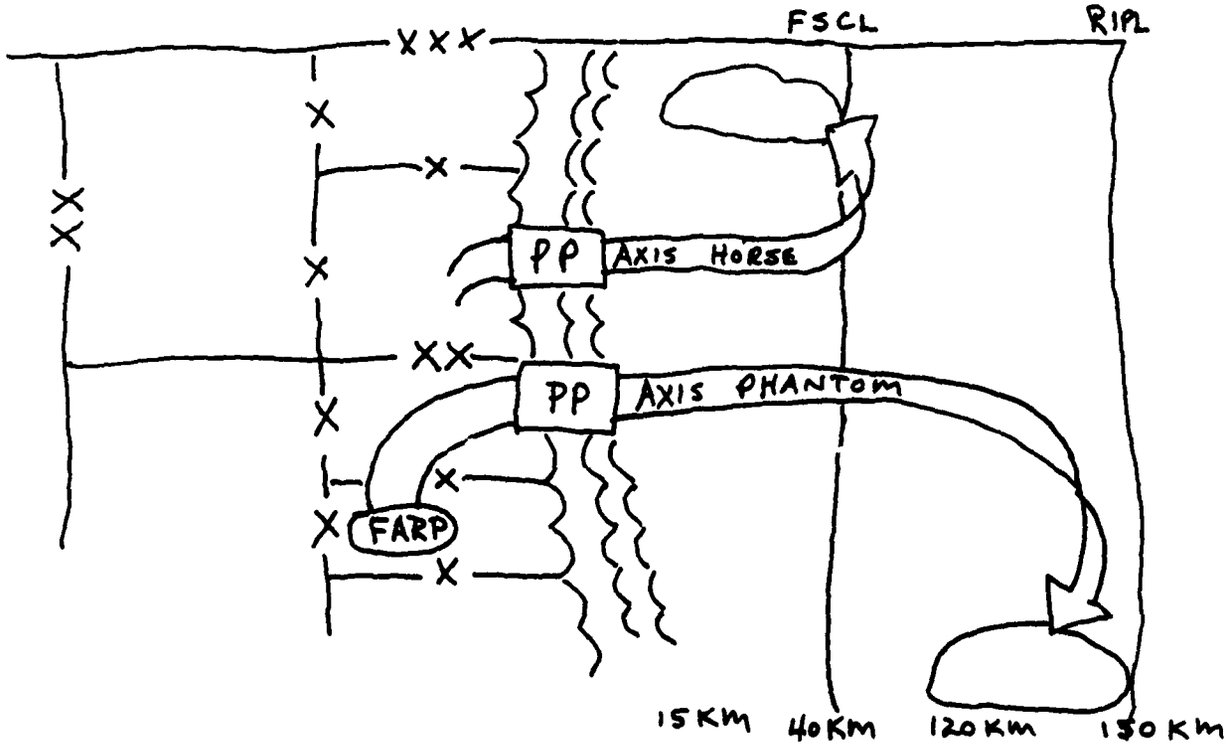
Attack Squadron	Attack Battalion
Aviation Brigade	Aviation Brigade
Corps	Division

HOW DEEP IS DEEP? CORPS vs DIVISION

- o Orientation
- o Target Arrays
- o Distances
- o Night Operations
- o Communications
- o Logistics Requirements
- o Operational Techniques
- o Intelligence Requirements
- o Joint Air Attack Team

ORIENTATION

Depth is based on mission orientation.



TARGET ARRAYS

Larger array for corps. The corps commander may send the corps aviation brigade in a multi-squadron attack. The division aviation brigade simply does not have the assets for an attack of that magnitude, unless supplemented.

DISTANCES

Normally deeper for the corps assets. Not because they have more range, but that is where the corps' area of influence is. See page 9. The division's area of operations is defined by the FLOT and the FSCL or the BCL, if established. The corps' area of operations is defined by the FSCL or the BCL and the RIPL.

NIGHT OPERATIONS

The war is fought and won in the "close" battle. The division commander may be forced to fight that battle on the enemy's terms. This may mean employing his attack helicopters at a time other than what he determines to be optimum. This means daylight employment. The corps commander has greater flexibility. He has more assets, probably 6 attack squadrons, which allow him to dedicate assets to certain missions. He also has access to intelligence collection assets far superior to those at the disposal of the division. This ability to "look" deep (beyond the RIPL), coupled with the attack assets

"dedicated" to attacking those targets, gives the corps commander a far greater capability to choose the time of the attack.

HE CHOOSES THE NIGHT.

AIR DEFENSE SYSTEMS[1]

SOVIET TANK DIVISION

	DAY	NIGHT DEGRADED	NIGHT CAPABLE
SA 7/14	93	93	0
SA 9/13	16	16	0
ZSU 23-4	16	0	16*
SA 6/8/11	20	0	20**
	145	109	36

All systems are depicted at 100%. True operationally ready rates will be less.

* Defeated by the ALQ-136 radar jammer.

** SA 8/11 are the most dangerous threat and should be the primary targets of the SEAD plan.

OTHER SYSTEMS USED FOR AIR DEFENSE[2]

SOVIET TANK DIVISION

	DAY	NIGHT DEGRADED	NIGHT CAPABLE
Tanks-main gun	328	328	0
MG 14.5mm KPV	328	0	0
Artillery SP	90	0	0
ATGM AT 3-5	9	9	0
BMP 1/2 73mm/30mm*	276	276	0
AT 3-5	(276)	(276)	0
MG	(276)	(276)	0
BTR-50/60/70/80**	23	0	0
BRDM/BRDM-2	128	0	0
LMG 5.45mm RPK-74	427	0	0
	2161	1165	0

* Considered as one system

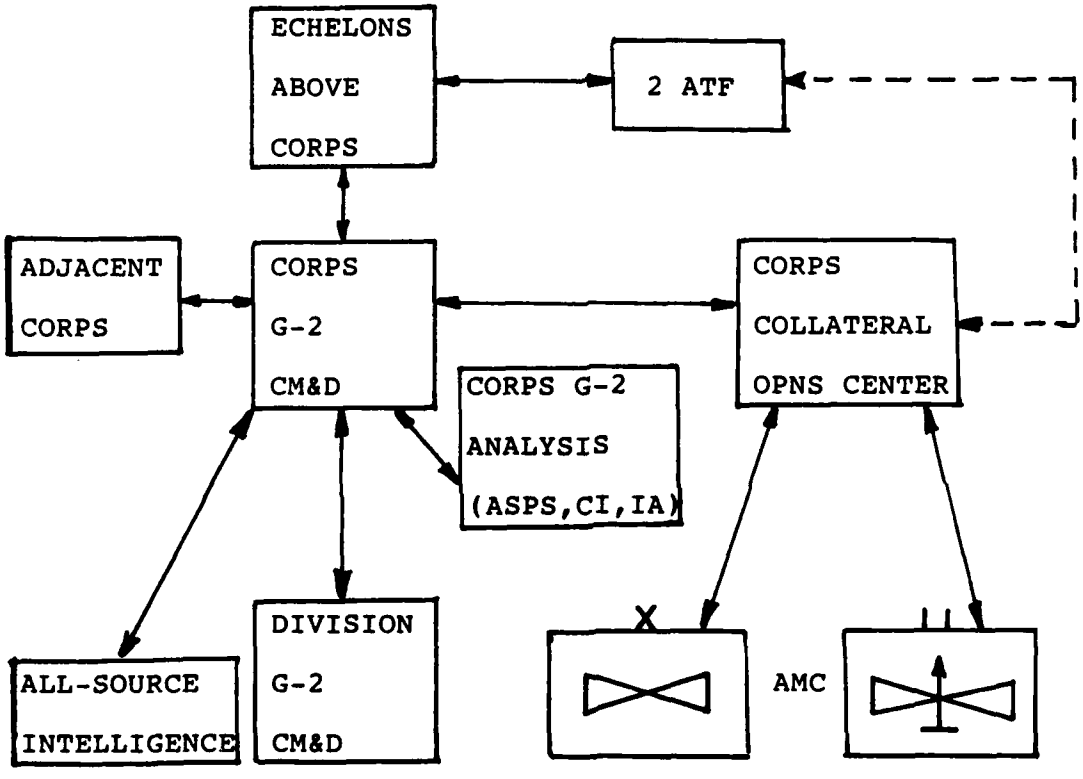
** At least two machine guns each

Soviets do not have thermal sights for these systems, and have only first generation light amplification devices for their tank main guns which effectively limit their maximum effective range to 500 meters.

COMMUNICATIONS

COMMUNICATION[3]

NETWORK



LEGEND:

ASPS All Source Production Section

CM&D Collection Management and Dissemination

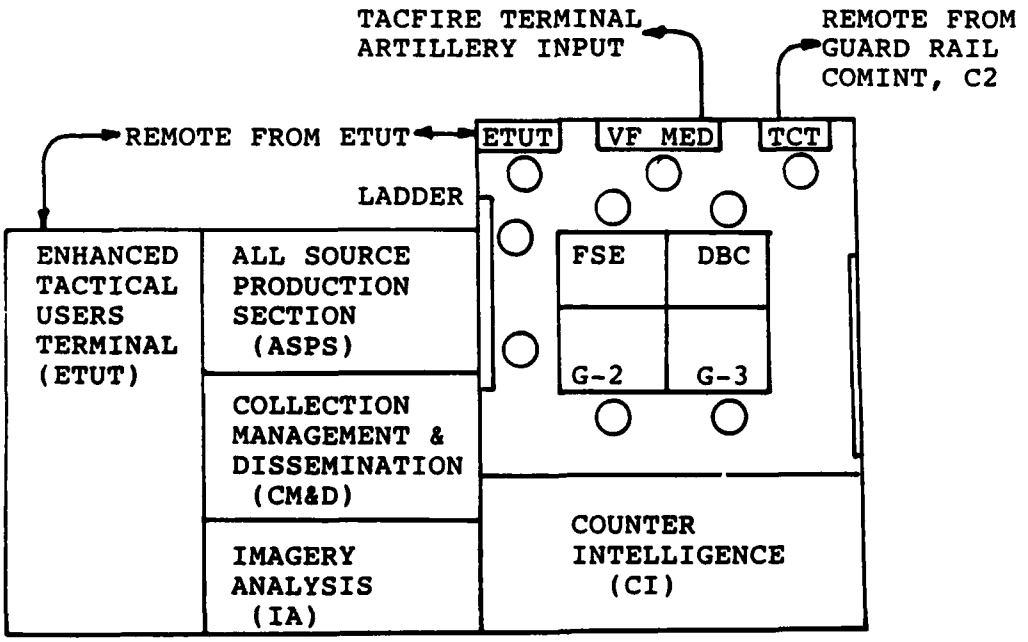
CI Counter Intelligence

IA Imagery Analysis

III Corps developed a "deep" operations center for the conduct of the deep battle. III Corps is the place where numerous new, high technology and inovative equipments are fielded/tested. The "deep" operations center was born under LTG Crosbie E. Saint to tie together the complicated elements of targeting and conducting a successful deep attack. Initially called the Corps Troops Operation Center it is now called the Corps Collateral Operations Center.

The efficiency of the layout is obvious.

CORPS COLLATERAL OPERATIONS CENTER[4]



ETUT receives remote ELINT/IMAGERY and moving targets from SLAR and JSTARS (when fielded). TR-1 down link.

new meaning to the term accurate and timely intelligence. The players are key to the smooth functioning of the CCOC. The G-2 and G-3 represented are self-explanatory. The FSE (Corps Artillery) and the DBC (Corp Aviation Brigade Deputy Commander) round out the key players.

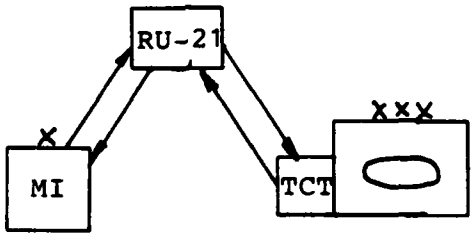
A short scenario will enhance understanding. The critical time in a deep attack is Passage Point (PP) time. The attack is back planned from the desired engagement area and time to provide PP time. The SEAD plan will commence at passage minus seven minutes and shift laterally or cease at passage minus one. Targeting for the SEAD plan will be commensurate with the most dangerous targets identified during route selection. Targeting will be verified and updated continuously at the CCOC.

As the SEAD plan commences, ELINT assets locate an SA-8 radar emitting from a location not targeted, but within range of our artillery. The information comes into the CCOC via the ETUT and is quickly analyzed by the key players. The target is handed to the VF MED operator who inputs it into the Tacfire net as a priority. The target is fired, neutralized and the attack force never knew they were at risk.

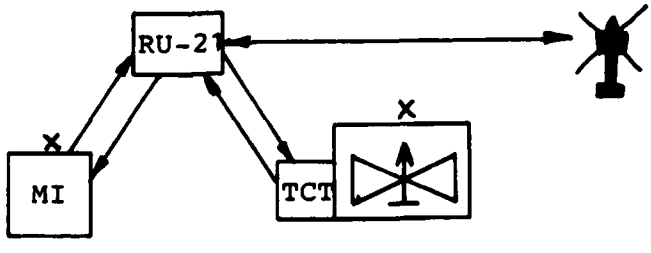
With a minor variation I can demonstrate another capability. The scenario is the same, but this time the emitter is deeper behind enemy lines and out of range of our artillery. This time the DBC turns to the TCT link with Guard Rail and via that link contacts the commander of the affected Squadron (with the attack force) and instructs him, "SA-8 to your front 10 K's, track right 5 K's, parallel course for 10 K's, return to original route, over." The attack force commander acknowledges and executes.

The Guard Rail Link:[5]

CONVENTIONAL EMPLOYMENT



PROPOSED EMPLOYMENT



Proposed employment locates a TCT at the Aviation Brigade. Additionally, as the AH-64 gets Automatic Target Handoff System (ATHS) the link can be data burst.

LOGISTICS REQUIREMENTS

Both division and corps attack assets require time critical, high volume combat service support, primarily, class III and V. If corps commits multiple squadrons to the attack, consumption will be much higher at the corps level.

OPERATIONAL TECHNIQUES

Operational techniques are similar for both attack forces. Both can dominate and control terrain for limited times. Neither can hold terrain without ground augmentation. Both are limited by extreme weather and environments. Both have limited capability in an NBC environment. It is important to remember that the divisional attack force may have to operate in the day. If this is the case, **DIFFERENT** techniques must be used. During Operation "Just Cause" numerous helicopters were hit by enemy ground fire (mostly small arms). 13 of 15 UH-60's and 2 of 4 AH-1S's and AH-64's were hit "because the mission was delayed until after daylight."[6] An AH-6 aircraft belonging to 1-160 was shot down on a daylight "gun run" and the two pilots killed. "We must train some daylight tactics, what works at night will frequently not work in the daylight."[7] Lower and faster, with significantly more spread in the formations will work better in the daylight. Tactics must be developed and practiced.

INTELLIGENCE REQUIREMENTS

The distance the two attack forces must travel to attack their targets will largely drive the type and level of collection assets used. The levels of distribution between the intelligence source and the user must be minimized. "Old" intelligence can destroy the attack force. The layout of the CCOC under the communications section (page 41) is an excellent example of how to get accurate and timely intelligence to the user. I fear, most army corps and all army divisions currently lack that capability.

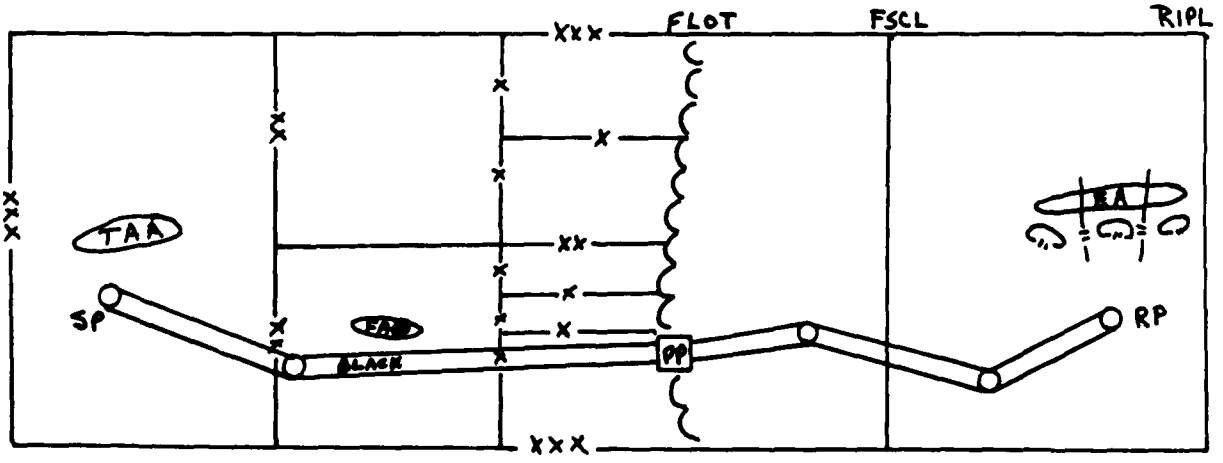
JOINT AIR ATTACK TEAM

The orientation of the Air Force is different in the divisions area of operations (AO) than the corps. In large parts of the divisions AO, the JAAT could be considered close air support (CAS). The deeper the attack force goes the more coordination will be required. In the deeper parts of the divisions AO and in the corps AO, the Air Force describes their mission as battlefield air interdiction (BAI). BAI requires a large force package of other types of aircraft to provide; air cover, J-SEAD and EW. This can be highly advantageous to the daylight deep attack force as it will not only provide additional cover, but a great deal of diversion as well.

We have looked at the similarities and the basic differences in the corps vs the division deep attack. Before we can further define the "Who" it is critical to define the complete route, from the corps or division rear to the engagement area.

The start point is the tactical assembly area (TAA) of the attack force, in the corps or division rear. The route will have to get the force from that point, to a forward arming and refuel point (FARP) (if required), through the ground maneuver brigade's airspace, through the FLOT at the selected time and place, through the enemy rear area along the safest route to the battle positions (BP) dominating the engagement area (EA). Egress is a separate topic and while the route will be selected in a similar manner it will not be discussed here.

COMPLETE ROUTE DEPICTION



TIME AVAILABLE

"Who" plans the route is dictated by the enemy force targeted, the intelligence gathering capabilities and the time available. Given unlimited time, the mission should be planned by the attack squadron or battalion leading the attack. This is the method used by special operating forces. Complete familiarity with the plan from start to finish will pay big dividends during the heat of battle, especially if things start to come apart. On the deep battlefield time is a most precious commodity. There is not time available to collect the intelligence at corps or higher and pass it down through several layers of command to the attack squadron/battalion, plan the mission, pass it back up the chain for approval and deconfliction, have it modified and passed back down the chain. Time delays will negate the opportunity to attack the enemy where and when you want him.

The higher the planning level the closer to the intelligence gathering sources the planner is. This will result in better time management and a greatly compressed planning cycle. Higher is quicker.

EXPERTISE

Corps and/or division has neither the staff nor the attack helicopter expertise to plan the mission to the level of execution. They do have the corps airspace

management element (CAME) and the division airspace management element (DAME), respectively. The AME at corps and division will come under the staff supervision of the G-3. The G-3 Air should supervise the actual operations of the AME. Staffing of the AME will include, but not be limited to, the following:

- o ADA officer
- o Aviation officer
- o Air Force liaison officer
- o Fire support coordinator
- o ATC liaison officer
- o CEWI officer

The list displays a variety of expertise, all of it useful when planning routes. Their real contribution remains to be seen.

The AME is a planning and management element with limited information handling capabilities. The AME determines how the commanders' airspace requirements can best be met. The AME will, among other things-

- o Develop, maintain and disseminate recommended low-level transit routes (LLTR).
- o Maintain and disseminate the information on all restricted operations areas (ROA), standard Army air routes, weapons-free zones, preplanned field artillery fires, major aviation operations and FARP locations.
- o Disseminate information concerning enemy air defense activity.
- o Provide airspace management information relevant to development of air-movement plans.

- **o Coordinate and disseminate to the ATC and ADA procedures to be used by aviation units for across front line of own troops (FLOT) operations to include return procedures.**

- o Coordinate selective identification features/identification, friend or foe (SIF/IFF) procedures for for Army aircraft to include the location of the SIF/IFF line.[8]

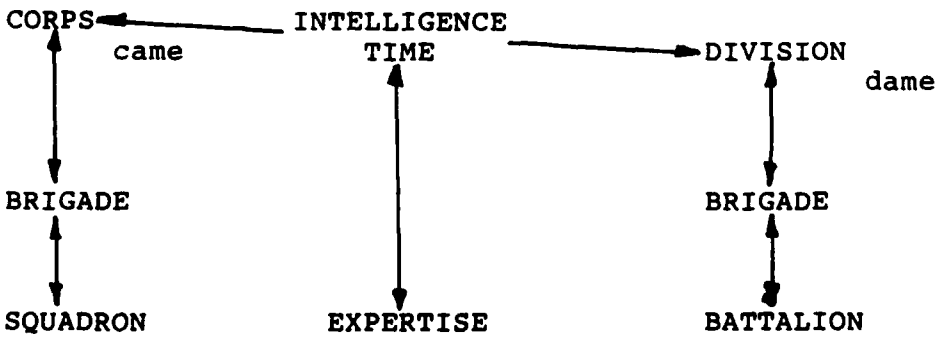
The AME is a planning and management element, they work for the corps or division planner (G-3), have the expertise, by functional area, and the requirement to "develop, provide, coordinate, maintain and dissemenate", listed above, as extracted directly from FM 1-103 Airspace Management and Army Air Traffic in a Combat Zone. Why are they not more involved in the deep attack planning process?

It has been my experiance in twenty-two plus years of Army aviation that the AME is frequently understaffed. Those Army officers that are assigned are frequently young and inexperienced or "one-time passovers" waiting for the ax to fall the second time. The Air Force officer, while usually very experienced, is a twenty year Captain on retirement orders. Air space management has never been very well done in the Army until recently. It appears to me that an AME staffed with "quality" people with a solid background in tactics could be a valuable asset to the G-3 and the aviation brigade commander.

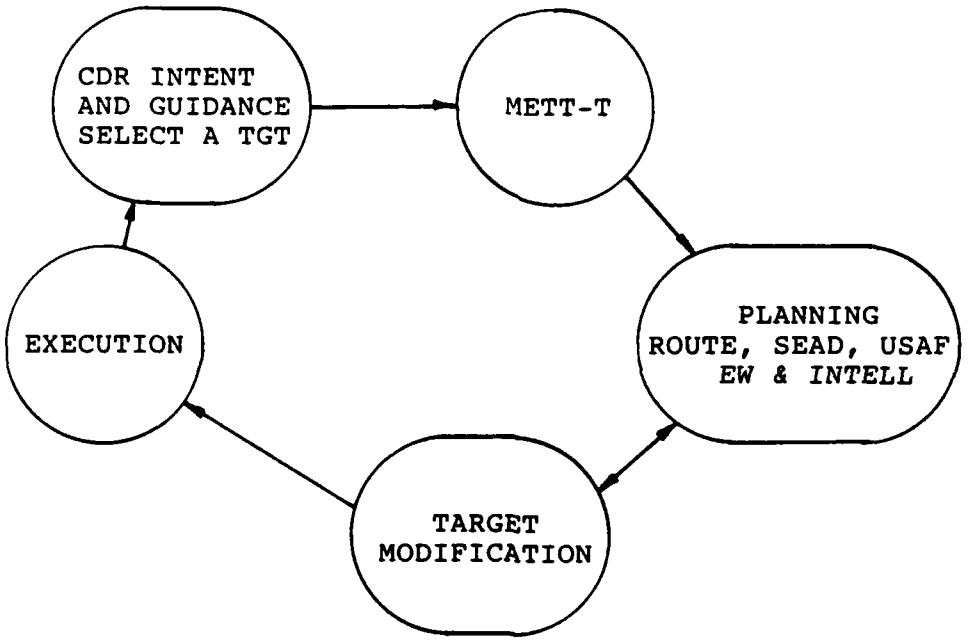
If you subscribe to the SOF model which places the planning with the forces that will execute the mission, then you have conceded the expertise to that level. It is certainly appropriate to credit the forces at the level of execution with understanding the requirements for a mission they have practiced and/or executed on numerous occasions. This places us in somewhat of a dilemma.

DICHOTOMY

It seems that there should be one "best" level of command where all of the planning can come together in a timely, efficient and effective manner. Levels of command, resources available at each level, communications and battlefield dispersion all contribute to hamper efficiency. The assets and the expertise are simply at different ends of the chain and at different locations on the battlefield.



I submit that different portions of the plan can and should be formulated at different levels, if not simultaneously, at least in rapid succession. The mission process does not change, only the location of the process. I will illustrate below.



CORPS/DIVISION

The commander must select the target, probably based on a recommendation of the G-3/G-2, making this the appropriate level for this portion of the planning. This is also the appropriate level to select the EA's as the intelligence planning (IPB with named and target areas of interest NAI/TAI), intelligence collection assets (SLAR, ELINT, LRSU and others) and the AME for LLTR selection and coordination are located here. In the III Mobile Armored Corps, deep operations are conceived and the corps commander provides his concept at the corps tactical command post (TACCP). The detailed planning and execution are conducted in the corps main CP.[9]

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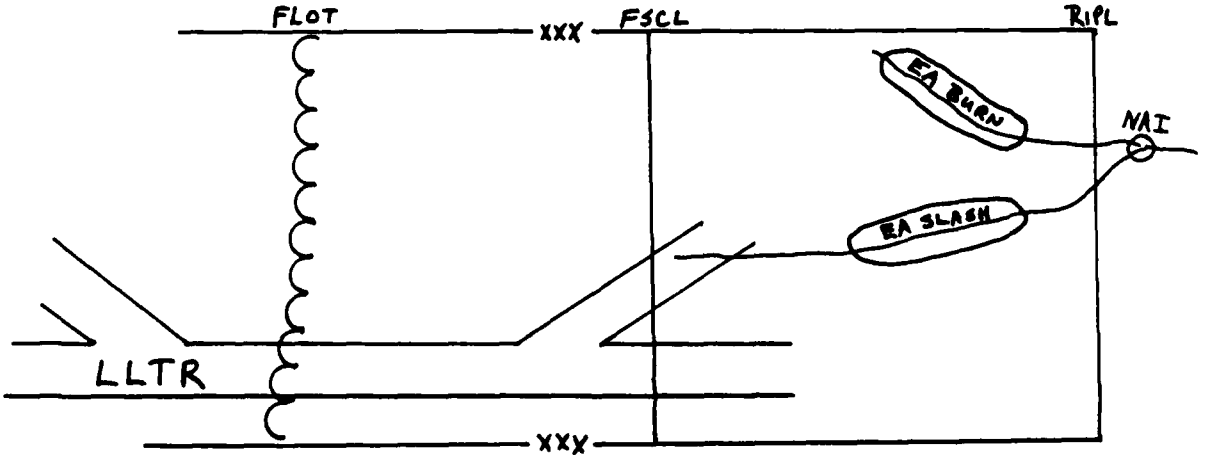

AVIATION BRIGADE

The aviation brigade CP should be located in close proximity (3 to 5 km) to the corps/division main CP. The aviation brigade TACCP should be collocated with the corps/division TAC. This will accommodate the mission planning by corps/division depicted above.[10] The aviation brigade in close coordination with corps/division should plan the routes, the passage points and the SEAD plan. This level provides the correct balance between the expertise located at squadron/battalion level and timely access to intelligence requirements.

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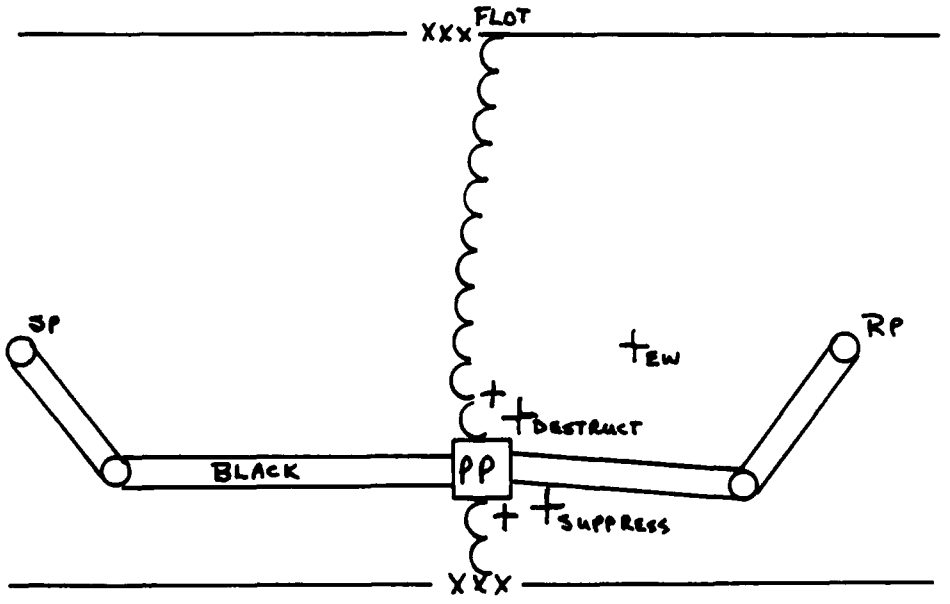
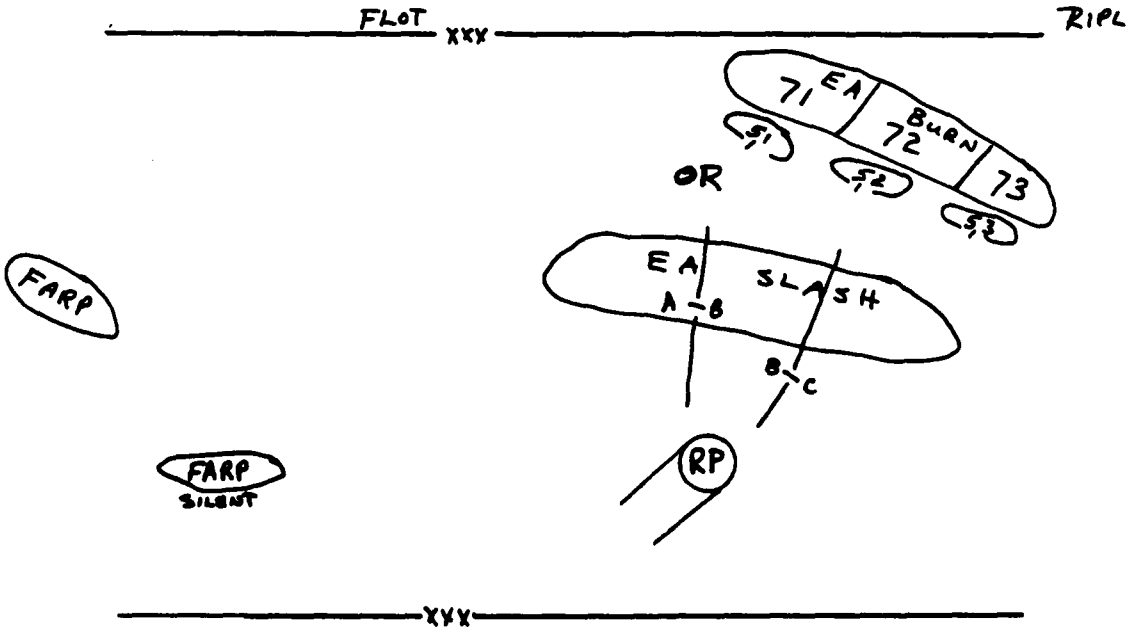


ATTACK SQUADRON/BATTALION

It is at this level that the specifics of the final plan are refined. The FARP's are located to facilitate ingress and egress. The routes from the RP to the BP's are planned, if required. The BP's are planned with alternates. The engagement area is divided to provide for proper fire distribution. Much of this planning can be accomplished based on a FRAGO from brigade with a general time frame, a general route and a fairly specific engagement area. Refinements can be made upon receipt of the OPORD. This will save a significant amount of valuable time when the OPORD is received.

GRAPHICALLY DEPICTED



Chapter six

End Notes

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5. Ibid.

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7. Miller, Billy, COL, Commander 160 SOAR (ABN), speech to SOF advance course, 16 March 1990.

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9. LTG Crosbie E. Saint and Col Walter H. Yates, "Attack Helicopter Operations in the Airland Battle: Deep Operations", Military Review, July 1988, p. 5.

10. Ibid.

CHAPTER SEVEN

CONCLUSION

There are those who have not yet thought about a deep attack, much less how to accomplish one. There are those who have conducted deep attacks for training and have an idea of how that attack should be planned and conducted. There are many opinions on how to do deep attack planning and at what level that planning should be accomplished. I have offered "templating" as one method of route selection. I think it offers not only the route, but can identify SEAD targets and indicate the most appropriate weapon system to employ against those targets.

"Who" should plan the deep attack? Some think it should be planned at the corps or division level. Some think the aviation brigade is the correct place. Still others think it should be accomplished at the level of execution, the attack battalion. I think it must be accomplished simultaneously at several different levels, with **TIME** as the critical factor. Critical to this simultaneous planning is a timely FRAGO or warning order from the aviation brigade to the deep attack force. The process I espouse is not different except that it is largely

simultaneous as opposed to sequential.

I did not discuss the wartime augmentation for the corps aviation brigade. That augmentation consists of several more attack units as well as lift assets. The most important addition is that of three subordinate group or regimental headquarters. The positive side is the ability to dedicate a planning headquarters to each of the battle areas; deep, close and rear. On the negative side, the addition of another level of command could increase the **TIME** factor and slow planning.

Aviators rarely share tactical experiences in the written form. This may be because there is normally only one aviation unit at a post and so there is not an opportunity. I would like to "share" the thoughts presented in this paper with the rest of the tactical aviation community. If you like it, use it. If you do not, use those portions you agree with and discard the rest.

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