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RESEARCH REPORT

E.S.P.: A MILITARY STRATEGY
ANALYSIS AND ASSESSMENT TRILOGY

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**AIR WAR COLLEGE
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**E.S.P.: A MILITARY STRATEGY
ANALYSIS AND ASSESSMENT TRILOGY**

by

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**A STRATEGY ESSAY SUBMITTED TO THE FACULTY
IN
FULFILLMENT OF THE RESEARCH
REQUIREMENT**

Research Advisor: James A. Nowbray, Phd.

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AIR WAR COLLEGE STRATEGY ESSAY ABSTRACT

TITLE: E.S.P.: A Military Strategy Analysis
and Assessment Trilogy

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This paper presents a framework for military strategy analysis and assessment, and provides an example of the framework in use on Rommel and the German North African campaign. The framework is developed in a checklist format. The name, E.S.P. is derived from the major analysis and assessment categories of Environment, Strategy, and Performance. The framework was developed for use not only as a tool for the study of historical military strategy, but for contemporary strategy study as well.

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BIOGRAPHICAL SKETCH

Colonel Ronald E. Keys is a command pilot with over 3000 hours experience in the F-15, F-16, A-10, and F-4. He completed 211 combat missions from Danang AB, Republic of South Vietnam. He has served as a Weapons and Tactics Officer, Fighter Weapons School Instructor, Flight Commander, Operations Officer, and Squadron Commander. His staff experience includes the Pentagon, TAC and AFRES Headquarters, and spans a diverse background of operations, testing, budget issues, and intelligence. Colonel Keys has previously published articles on tactical training, air tactics, and air discipline.

FOREWORD

This paper is not about researching and assembling assorted facts into a professionally annotated chronology called a military history. It is about weighing past chronologies and understanding their portents for the future. It is a lesson in putting history into context. It presents a framework for studying military strategy and then provides an example of its use based on the World War II German North African Campaign. It is not for students of writing history. It is for students of making history.

E.S.P.: A MILITARY ANALYSIS AND ASSESSMENT TRILOGY

INTRODUCTION:

Fluency in military history and strategy is fluency in the art of the possible. It allows one to ask oneself, "Knowing what I know, what would I have done? Knowing what I don't know, what will I do when I face some similar future choice?" It develops that coup d'oeil (literally, the stroke of the eye) that can, at a glance, bring into focus all of the competing imperatives of a situation and set the correct one in motion. It hones what the Germans called, "Fingerspitzengefuehl"... an instinctive fingertip feeling for the situation, the terrain, and the possibilities for battle. That is the thrust of this paper ...professional preparation in considering the possibilities.

However, when one presumes to analyze historical military strategies and consider those possibilities, one faces a formidable problem: How to synthesize often distorted and certainly miss-sorted facts and opinions into a coherent and understandable dissection of cause and effect. There are many tools that have been developed to deal with historical military strategy, but few that cover the spectrum sufficiently in breadth, depth, and detail in a single offering. In search of that comprehensive framework, development of a number of diverse architectures into one combined strategy analysis and assessment model was undertaken. The result was christened E.S.P.: A Military Analysis and Assessment Trilogy. Intended as a complete analytical tool, E.S.P. uses ENVIRONMENT, STRATEGY, and

PERFORMANCE as broad categories of review. Thus E.S.P. focuses first upon the world and national setting into which strategy will be introduced. Next the makeup and plan of the strategy itself is reviewed. Finally, the implementation of the strategy is assessed. Was it the right plan, at the right time, at the right place, executed correctly? What were the alternatives and what lessons can be drawn?

Some words of caution: No matter what framework one ultimately chooses, a study will only be as good as the data with which one starts. Just as in computers, "garbage-in" will produce "garbage out". There is a lot of good history on the bookshelves and there is also a lot of glossy schlock that is sold as history and that has little basis in fact. Historians are professionals paid to steer practitioners to the "Right Stuff". Use them. Another problem is bias. Some people love MacArthur (substitute any historically significant name) and some people hate MacArthur. Some of those same people are historians and write about MacArthur. Your historian ought to know most authors' proclivities. Ask him. Finally, be careful of your own bias. If one sets out to prove some central truth, history is almost always replete enough with facts to provide that proof. (History is a lot like Clauswitz or statistics. If one knows enough and is selective enough, almost anything can be either supported or challenged.) An appraisal will be much more accurate, balanced, and useful if the focus is on analyzing a broadly sourced range of facts and determining what "truth" emerges, rather than vice versa.

With that said, the E.S.P. structure, and then an example of E.S.P. at work on Rommel and the German North African campaign, follow.

THE E.S.P. FRAMEWORK:

STATEMENT OF STRATEGY

Although not a specific part of the E.S.P. framework, as a technique, it is useful to organize and state the campaign strategy as the initial step. This brings focus to the process of analysis and assessment as the strategy is weighed against the relevant factors.

ENVIRONMENT

Military strategy cannot operate in a vacuum, insulated from the policies and politics of the government that employs it. Neither can it escape the vagaries of geo-economic and societal pressures. "Environment" highlights those competing forces, the setting, that form the crucible in which the metal of military strategy is tested.

National Objectives

What competing or supporting objectives were being pursued? Was there conflict or accord? Were objectives vital? Did objectives oppose the adversary's vital interests? Were priorities

established?

Regional Objectives

Were the specific regional objectives amenable to military force? Were the regional objectives in conflict with national objectives elsewhere? Was there a clear measure of success established? Was there a system of priorities and a timetable?

Leadership

Did the qualifications, biases, or motivations of the leaders involved make a significant difference? Were goals and motivations in accord or in conflict?

Psychological Factors

Were there instances of uncharacteristic resolve, tentativeness, fear, deviousness, or decisiveness that were factors? Was the campaign a point of honor? Could it be abandoned?

International Commitments and Alliances

Were there instances of support provided or withheld? What were sources of positive or negative influence? Were critical promises made, kept, or broken? Were reactions of third-parties vital? Were all of the players identified?

National Character, Mood, or Morale

What unique effects or pressures did national characteristics have on policy or objectives? Could the cost in economic sacrifice or national

will be borne? Was there an effect on timing?

Political Stability

Did this play a role in defining objectives? Did it affect timing? Did it affect the weight of resources? Was there political accord or discord?

Financial Solvency

Did this impact the war effort? Did it force incumbering alliances? Did it affect timing or objectives?

Natural Resources

Did a lack or abundance of these shape objectives, influence strategy, or impact on operations?

Industrial Capacity

Was this of sufficient capacity, talent, and mobilization level to support the campaign requirements? Were vulnerabilities addressed?

Scientific and Technical Base

Were there technological leads or lapses that significantly affected, or should have affected the campaign?

Trade Requirements

How did resources, industry, or technical base factors affect trade requirements? Was it a vulnerability or strength?

Geography

Within the campaign area how did topography,

climate, geoposition, and related factors shape campaign requirements? Were there crucial oversights or foresights?

Population

Did density, distribution, or ethnic and social mores present special problems?

Force Structure

What was the existing balance of military capability and correlation of forces? What was the availability to the conflict area of military capability? What factors combined to change or maintain that balance? Was the balance based on quantity or quality? How did the balance shift?

Readiness

What was the state of training, organization, experience, and mobilization of the belligerents? Could shortfalls be overcome?

Doctrine

What advantages or disadvantages were reflected in the doctrines of the forces engaged? Were there instances of flexibility or inflexibility?

Intelligence

What significant advantages were held or gained?

What intelligence requirements were vital to plan success? Were there any "windfalls" capitalized upon or overlooked? Was the true nature of the foe and his goals known

accurately?

Time

What was the time-span planned for the campaign?

How would disruption of the timetable affect performance? Was a long-term or short-term solution sought? Was time an ally or enemy?

STRATEGY

The second leg of the Trilogy is an evaluation of the plan or strategy from a more military viewpoint. How well did the planning appear in the light of the appropriate principles of war and related considerations? Again, just as in "Environment", not every factor will apply in every case, but factors should not have been discounted without consideration.

Objectives

Were the objectives clear, consistent, and amenable to the military force at hand? Was a true, vulnerable center of gravity identified for both sides? Were ends adjusted to means? Was the risk worth the gain? Were alternate courses of action planned? Did the military objective support the national and regional goals?

Offensive

Did the planning allow action vice reaction? Could offensive action be supported and

sustained? Could success be exploited?

Suprise

Was the element of surprise used to advantage?

Were deception and lines of least expectation exploited?

Security

Did the plan adequately acknowledge security requirements and problems? Were deception, masking of forces, dispersal, and secure lines of communication considered or overlooked? Were security breaches critical in success or

Mass

Economy of Force

Maneuver

Were the preceding three factors integrated to enhance force or equipment strengths and minimize weaknesses? Were they focused on the objective? Could they be supported at the tempo planned? Did the adversary disrupt the integration of these factors? Were one or more sacrificed needlessly or appropriately?

Timing and Tempo

Was the strategy prepared to seize the initiative and force the enemy to react? Was the strategy forced into one of offense, defense, maneuver, or attrition? Which side controlled the tempo? Was the strategy implemented with the proper timing and at the proper time? Were there critical points of synchronization and

coordination? Did they play a role in the outcome?

Unity of Command and Control

Were command lines clear? Did authority and resources reside in the correct hands? Were opportunities gained or lost through the ability or inability to direct forces quickly to alternative plans?

Simplicity

Were the plans and objectives clear and unambiguous? Were opportunities gained or lost because of confusion?

Logistics

Were logistical requirements reasonably calculated? Could they be sustained? Were operations tailored to logistics? Were shortcomings or strengths pivotal? Were vulnerabilities assessed?

Cohesion and Morale

Did these play significant roles in the campaign? Did fighting effectiveness improve or decline, and did that affect the plan?

Flexibility

Was planning adaptable to either adversary's mistakes? Was it a chain-reaction plan or were there alternatives? Had any opportunity planning been done? Did rigid adherence to preconceived notions play a role in success or failure?

Intelligence

Were intelligence requirements of the planning reasonable? Would gaps in providing planned-for intelligence or reconnaissance make the strategy unexecutable? Were there alternatives?

Attrition Management

Was the problem of attrition considered in the strategy? Could it be adequately managed? Was there a safety-valve if it could not be managed acceptably?

Time

What was the timetable? Was the effect of time on the strategy understood? On whose side was time? Did time affect National Objectives differently than the regional military strategy?

Assumptions

Were there any assumptions (without benefit of hindsight) that the plan relied upon and that were inaccurate or unreasonable? What drove those assumptions?

PERFORMANCE

Finally, what happened when the Strategy was implemented in the Environment that existed? Was it a bad plan, or a good plan poorly executed? What are the lessons to be learned?

Strategy Mismatch Error

Was strategy tailored to meet the adversary's strategy or did it ignore it? Were the strategies mutually exclusive: containment; occupation; counterforce; countervalue?

Force Mismatch Error

Were the correct forces ever available to execute the strategy? Was it a case of land power versus airpower, or sea power versus land power, for example? Was the combat power of the force ever large enough to do the job?

Center of Gravity Error

Was the correct one selected? Was it vulnerable? Was one adversary's more vulnerable than the remaining adversary's? Did the strategy attack the center of gravity? .

Calculation Error

Were the ends attainable with the forces at hand? Did the campaign attempt to go too far? Was the culminating point passed? Were adversary reactions miscalculated? Was the adversary pushed too far or not enough? Were third-party reactions miscalculated?

Oversight Error

Were there vital oversights that should have been addressed? Was information available not used or discounted arbitrarily? What role did chance play? Was it chance?

Collective Risk Error

Was a reasonable assessment made of the effect of the accumulation of a series of small but interdependent setbacks? Were the priorities reasonable and independent or interdependent? Were the friction, coordination and synchronization risks understood?

Symmetrical Response Error

Was an assumption made that the adversary would respond as required? Did the adversary exhibit the required priorities? Did the strategy attack the adversary's strong suit or weak suit?

Likelihood Error

Was the plan geared to the best case, the worst case, or the most likely case? Was there a flexibility factor?

Leadership and Execution

Despite flaws in planning or unexpected events, did the leadership produce the last ounce of potential from the situation? Conversely, what errors of leadership blemished a sound and workable plan? Were criticisms or accolades based on style or substance (success or failure)?

Pat Answer Error

Finally, look at quality control. How good is the analysis and assessment? Is it based on other analyses or seminal documents? Does that

make a difference? Have the viewpoints of both sides been fairly reviewed? Were there more than two sides? Did the investigation incorporate width and depth? Were the sources balanced or biased? Were facts balanced or selected? Were "Hindsight Analysis" errors avoided?

E.S.P. SUMMARY

At this point, analysis and assessment are complete, but four key questions emerge to be answered in summary: What were the critical strengths or weaknesses of the strategy? Why did one or more of the adversaries overlook or capitalize on them? What were the lessons learned? Can they be lifted out of historical context and be applied (or misapplied) today or tomorrow?

The introduction to the E.S.P. framework ends here. What follows is E.S.P. in action. Entitled "Foxes, Fools, or Fate.", it focuses on Rommel and the German North African Campaign, 1940-1943.

CAMPAIGN SYNOPSIS

The North African theater can be confusing. It was composed of some seven separate campaigns, most fought up and down the same long stretch of coastal desert, dotted with unfamiliar and exotic names. As an aid to those unfamiliar with the campaign, the following synopsis is offered.

In September 1940, Mussolini's forces struck East toward Suez. (36:1) By the New Year, the Italian adventure had turned to debacle and the catalyst for German intervention in North Africa had materialized.

Picture the Axis and British forces attached by elastic bands to their respective bases of Tripoli and Cairo, some 2100 ground miles apart. As either sorties out, its band of logistics and air support becomes narrower and tighter and more vulnerable. Finally, the campaign is forced to stop or recoil, as much from the tension on its side as from resistance from the other. (13:400) The problem was simply reoutfitting and reorganizing before the enemy could do the same. (31:341) It was a constant search for a supportable and defensible forward logistics base as a new "attachment" point.

After their ill-considered strike at the British, the generally non-motorized and poorly equipped Italians were stopped and defeated with ten divisions destroyed or captured.

(16:260;27:329) In a separate action, over half of the Italian battlefleet was destroyed at Taranto, inflicting enduring physical and psychological losses. (15:212; 19:36) By January, Tripoli and all of North Africa were within British grasp. However, on the 7th, Churchill stayed that blow in order to withdraw troops to honor an ill-fated commitment to Greece, then under pressure from both Italy and Germany. (15:117-118) On 7 February, 1941, Erwin Rommel arrived in Tripoli, and with

his arrival the last hopes for an early and easy British victory in Africa went up in smoke.

Rommel, sensing that the British forces were weakened but would strengthen with time, attacked at the end of February. By mid-April he had laid siege to Tobruk and coasted to Sollum on the Libya-Egypt border. The British initiated the next round in June in a frontal assault named Operation Battleaxe. (15:170) Rommel gave ground and dislocated this assault. Late in November the British mounted a determined offensive (dubbed Crusader) and by mid-December had liberated beleaguered Tobruk and pushed on to Benghazi. However, the "offensive defense" of Rommel extracted a high toll, and the British nearly forfeited their numerical superiority in tanks. (15:104-108) Rommel, meanwhile, fell back to El Agheila to reoutfit on less extended lines while the British methodically attempted their own reconstitution. (24:77)

In January, 1942, Rommel unleashed a major attack, suprising the British. Benghazi fell again and then stubborn Tobruk. By June, the hard pressed British had dug in at El Alamein, 70 miles from Alexandria. (15:267-281) But the Axis victories had been dearly bought. Time and attrition had become the twin spectors of future defeat. The Eastern Front was drawing off reinforcements. Malta forces, in concert with Ultra intercepts, were devastating resupply efforts. (21:99; 13:484) American supplies and tanks were in British hands in ever increasing numbers. (13:482) After two unsuccessful and costly (for both

sides) attempts to breach the British lines, Rommel began plans for withdrawal. When the British offensive began late in October, the outgunned and outmanned Axis line first stood its ground and extracted a heavy toll. Finally, on 3 November, Rommel began his retreat... one that would not stop until Tunisia. (13:499) On 7 November, 1942, the Allies landed in North West Africa. (24:88) The Axis now faced a growing two-front threat.

The German High Command now grasped the calamity at hand, but poured in a separate Army to Tunisia with seemingly no thought either of an orderly withdrawal of Rommel's precious battle-tested veterans, or of the possible loss of all African forces. (13:503-504) (It was not so inexplicable: North Africa protected the Mediterranean underbelly and tied up millions of tons of Allied shipping around the Horn forestalling a possible European invasion.) It was too little, too late. Under pressure from the west and east, the Axis finally were forced to defend a pocket bounded by Bizerte on the northwest and Mareth on the southeast. (13:509)

Rommel, seeing one last chance to buy time to convince Hitler to organize the evacuation of his army (using U-boats and small ships to evade growing Allied sea and airpower), struck west-northwest, and captured the Kasserine Pass. For ten days he was in danger of breaking loose in the Allied rear with disastrous results. (13:509-510) Ultimately, his gambit failed when General von Arnim, Commander of Tunisian Forces,

refused to release critical tank forces to him until two days late. Coordinated Allied air and ground attacks combined to smash the breakout on 24 February. (20:51-56) By 22 March, the Mareth Line had been outflanked, forcing an Axis fallback. On 6 May an all-out Allied attack began across the shrunken front, and on 12 May 230,000 Axis troops surrendered. (13:514)

STATEMENT OF STRATEGY

Germany planned for the capture of Gibraltar, occupation of the Azores, invasion of Greece and Crete, and reduction of Malta. Finally, after securing continental Europe, a concentration of force would expel the British from Egypt. (30:28-29, 37; 17:36) Ultimately, to secure the North West African approaches, the French would be enticed to join the Axis against arch-rival England, and Germany would be free to strike east and join up with Japan. (22:13-15; 17:33-34) This "peripheral strategy" was developed to force England to sue for peace in order to maintain the vestiges of her world position and colonial empire.

Operationally, Rommel was directed to conduct an "offensive defense" with no intention of striking an early decisive blow. (26:105) Instead, Rommel was expected to provide a blocking force around Sirt. In fact, the High Command felt North Africa was probably lost already by the Italians, but thought a modest investment would encourage the beleaguered British to not contest a "minor" theater further. (22:19; 24:72-73) (At least not until continental matters could be settled and

Germany's full might swung south.) All of this was not known by Rommel however, and his resulting interpretation of "offensive defense" was somewhat liberal,... and thereby hangs a tale.

E.S.P. ANALYSIS AND ASSESSMENT

ENVIRONMENT

Germany's National Objectives were grandiose: a defeated Russia; a defeated or at least isolated and neutral England; North Africa united under France and Italy; and a final link-up through the Middle East and Iran with Japan. (S:131-140; 11:1-77; 17:36; 21:112-116) But if there was one, only the mercurial Hitler knew the timetable. Only Hitler drove the priorities.

Extensive early operational planning had been conducted on North Africa by the German Army High Command (OKH). By implementation time however, Hitler had created a Personal Command Staff (OKW) and it held sway. And Hitler put little stock in alternatives. As a result, when trade imperatives with England caused Spain to withhold German transit rights to invest Gibraltar, Hitler was not prepared with any options or recourse. (30:22-24) While Britain relied upon its own Navy and Air Force, North Africa was forced to rely upon an increasingly independent and overcautious Italy for sea and air support. (26:193) The battle for Europe left no German options in reserve for North Africa. If the coalition did not coalesce, the plan was not recoverable.

Regionally, the original OKH plan was sound, but only if all of

the parts were used. Only if all of the assumptions were correct. Take Gibraltar. Invest Greece and Crete. Reduce Malta. The Mediterranean becomes a German sea. England was thought to hold her Empire dear enough to then sue for peace to hold it. But...no calculation of the demand for sea power, transport, armor, and air support had been made, should England be resolute enough to fight.

Hitler's inaccurate assessment of Churchill's view of North Africa committed a token German force to a theater viewed strategically vital by England. (26:193) In so doing, he extended himself unknowingly into a war of attrition. One that his still incompletely mobilized industry could not support before the twin forces of the Allied European Bombing Campaign and Operation Barbarossa. (21:79) Rommel's incomplete picture of the Grand Strategy was critical. As late as April 25, 1941, Rommel did not know about the Balkans plan and worse, Barbarossa. (40:92) His tactical successes only served to bestir an up-to-now methodical enemy and threatened to unbalance the larger planning. Rommel's style did not help. He frequently went over his Italian superiors, direct to Hitler. This alienated not only his in-theater support, but also Hitler's powerful and jealous OKW staff. Field Marshal Kesselring, in Rome as Commander-in-Chief South, was also unamused. (39:79. 80, 93, 147)

The geography of the area was unique. (25:12, 128-129) From Alexandria to Tripoli the theater was a strip of negotiable

desert some 70 miles at the widest and 20 at the narrowest, with only one road, the coastal Via Balbia. Deeper into the interior were the sand seas crossed only by narrow "tracks" that were barely one vehicle wide and were impassable morasses in the rainy season. (22:50-51) Agedabia was the strategic western focus of more than a half-dozen of those tracks leading east to Suez. (40:72) Along that entire chain, only three defiles existed whose southern flanks could not be turned. (36:5) The Qattara Depression south of El Alamein, the Halfaya Passes at the Sollum escarpment, and the marshy Wadi el Feregh, at El Agheila. Elsewhere, a determined maneuver-warfare fighter could turn a static defense's flanks. West of El Agheila only the Maimaia Hills at Mareth and the Shott el Jerid salt lake provided even modest anchors.

Significantly, along this entire route only Benghazi and Tobruk were suitable resupply ports east of Tripoli, capable of off-loading large supply ships. (36:5) Tobruk was a crucial land key also. The sprawling fortress commanded transit of a 22 mile length of the Via Balbia. Even a besieged Tobruk forced deep detours. (40:84)

Further north and north-east lay the islands of Malta and Crete. Crete suffered as a strategic base because of distance to the main body of the theater. Malta, however, lay squarely astride the sea and air lanes. Malta was vital. But Malta was not taken. (21:116; 13:400)

The Italians were simply not equipped to fight this kind of war. Their tanks were light and under-gunned and their infantry was unmotorized and of virtually no use in maneuver war.

(16:260-261; 19:37; 26:135) Italian generals were cautious and had no experience in fighting against modern troops. The Italian fleet lacked an effective Air Force for cover, had no radar, and professed a chronic shortage of oil with which to steam. (30:106) (In truth, the Germans discovered nearly 1,700,000 barrels of oil hidden away in Italy in 1943, but by then the discovery was moot.) (40:307)

Except in desert experience, the British were little better off in 1940. (19:29-30; 26:146-147) Their Matilda tanks were heavily armored, but slow and undergunned. Their Cruiser tank series were fast, but lightly armored and undergunned. There was a lack of towed anti-tank weapons although the six pounder was excellent. Late in the war U.S. Grant tanks brought with them superiority against all but the newest Axis weapons. (32:141) Infantry was mechanized to a degree, but generally tanks and infantry were employed together in 1915-style frontal assaults. (31:245) Not until late in 1942 did the British adopt even some maneuver war.

The Germans, on the other hand, while not experienced in desert fighting, brought mechanized infantry, fast, heavily-gunned tanks, and a tank recovery system that was crucial to their sustainability. Additionally, the dual-purpose 88mm flak/antitank gun was used with a vengeance. Later introductions

of the Improved 88, captured Russian 76.2 millimeter antitank weapons, and the Panzer III and IV Specials (the latter with a 75mm gun) held the technology edge, but were too late and in too small numbers to be decisive. (40:160, 175-178, 246)

German doctrine was to fight on the move, not move to where one was to fight. Tanks killed infantry, antitank forces ambushed tanks, and artillery killed antitank forces and infantry. (19:100, 131) Until late 1942, the British paid murderously high tuition under German instruction.

Within the theater, desert warfare hinged upon lightning sweeps and penetrations that required accurate pinpointing of forces. Destruction of equipment and supplies was the prize, not the garrisoning of meaningless seas of sand. Consequently, night operations and tactical dispersal were emphasized as counters. (25:120-129) Both sides also went to considerable deceptive lengths to surprise the other. Rommel went so far as to drive his tanks several times "around the block" when his initial forces disembarked at Tripoli, in hopes of confusing the advancing British about his actual force paucity. (40:69)

Throughout the campaign the Germans used extensive dummy tank profiles mounted over trucks to conceal actual dispositions and concentrations prior to attacks. Radio intercepts were conducted by both sides, and both countered with spoofing. The British made an art of "losing" secret documents to capture, but gained no significant advantages. (40:117) In most cases, because of inadequate air reconnaissance, at least some local surprise was

achieved. (22:123-126) Germany suffered most seriously as her air superiority waned. (20:51-56) In September, 1941, Italian agents burglerized the U.S. Embassy in Rome and stole the U.S. Diplomatic Black Code. As a result, the Germans began intercepting the detailed U.S. Military Attache reports to Washington from Cairo. (40:182) The leak was discovered and plugged in July. More damaging however was the fact that the British were reading the sailing orders and manifests of German and Italian resupply efforts to Rommel (Not to mention German Unit Status Reports, weather forecasts, and bomb damage assessments). Ultra had broken the Enigma Codes.

(22:207-208)

The time factor was the most telling, and the least calculated for on the German side. As time wore on and hoped for alliance promises did not materialize (Spanish access to Gibraltar, French partnership in Africa), German "holding" forces found themselves engaged in major maneuver battles just to forestall an inevitable war of attrition. And there could be no alternative plan once Barbarossa began.

STRATEGY

Into that setting, with one German Light Division and one Panzer Division (and never more than four total in Libya), Rommel came, and saw, and nearly conquered. (26:36)

Rommel judged that an objective of a defense around Sirt to block a British advance would fail, no matter how "offensive".

He grasped the problem of indefensible flanks and also knew that to allow the methodical British to consolidate their position at Benghazi and "reattach" their supply tail invited eventual disaster. His strategic aim was Cairo. Take that and and British hope was gone. His plan was simple: flank and surround the British forces while they were reduced to reinforce Greece; capture Tobruk; attach his tail there and then re-outfit from a first-class port. With that success he could lobby support for additional forces. He knew that two complete divisions in Germany had been outfitted for desert warfare... unfortunately they were sent to the Eastern Front). (26:35) (What Rommel did not know, and what Hitler would not tell his favorite, was that Russia would soon be the priority... eventually an all-consuming one.) (40:109)

Throughout 1941, into the fall of 1942, for the most part it was Rommel who controlled the tempo of the war with sweeping maneuvers to flank British positions. The slow speed of the British army was its soft spot, and Rommel knew it (26:146-147) Swift, stealthy retreats to prepared fall-back ambush positions and mine-fields extracted a heavy toll from the British. Simultaneously, British lines extended in preparation for Rommel's next surprise counter-attack. But Rommel was not infallible, preoccupation with reducing Tobruk found him unprepared for the British Operation Crusader onslaught in late 1941 and forced him back to his starting position (despite heavy attrition extracted from the British).

The German soft spot was logistics. Initial planning suggested that only three to four divisions could be supported. (40:70) But it was much worse. Rommel's staff calculated that their two divisions of ground forces needed 24,000 tons per month, the Luftwaffe 9,000, the Italians 63,000, and another 20,000 per month was needed to stockpile for future offensives. Out of that total of 116,000, Tripoli could only handle 45,000 per month. (40:98) And Tripoli was a long, hard, gas-consuming drive from the action. Perhaps it was a liberal calculation, but nevertheless, supply shortages were major stumbling blocks throughout the campaign.

However, despite that, the Germans still exhibited mastery of offense, maneuver, and tempo within the theater. But plans and forces generally out of Rommel's control conspired to tip the balance. As simple a thing as using the British-built railway from Tobruk to El Daba (25 miles short of El Alamein), was beyond Italian bureaucracy and engineering. (26:203, 235, 200) Nearly three weeks after the 1941 siege of Tobruk began, the Italian blueprints of Tobruk fortifications had not yet been forwarded. (40:92)

Germany could never: marshal the forces to provide air superiority after mid-1942; rely on Italian naval units to protect supply convoys; produce quantities of lighters for coastal supply; agree to reduce Malta (This an exception. Rommel himself lobbied Hitler to move east from Tobruk without waiting for Hercules, the capture of Malta. (39:147, 40:163) As a result, as Rommel struck east to El Alamein, his meager air

reinforcements were drawn from units previously assigned to disrupt Malta interdiction efforts.) Those inabilities spelled delay and delay meant logistical attrition. There was no defense. By October, 1942 the British could trade Rommel tank for tank and still win. (24:00)

By the time he began his retreat from El Alamein, Rommel's objective was to fight an ordered retreat and enable his forces to be drawn off through the Tunisian Cape Bon peninsula (this despite an earlier, heated lecture by Hitler to the contrary). (26:360; 40:240) But in this last phase, the "dis-unity" of command that he had so skillfully overcome in Libya, dealt a telling blow. As Rommel began his withdrawal, he hoped to avoid pitched battle and preserve his unmotorized infantry and dwindling tanks. However, Hitler issued orders to stand fast. Hitler relented, but 36 hours passed, allowing the British to close in pursuit. Rommel was forced to abandon his unmotorized infantry (mostly Italian). (21:100) Once fortified at the Mareth line, Rommel chose to strike west through Gafsa and Kasserine in hopes of devastating the Allied rear to buy time for evacuation. (3:176-178) Von Arnim, in charge of the Tunisia forces and with a plan of his own, refused to release two divisions of his panzers without higher approval. Finally one division was begrudgingly released, understrength and missing some 24 Tiger tanks. Meanwhile the Allies had shifted, and by the time the authorization arrived placing Rommel in total command of African forces, the offensive had already been smashed. (3:176-178)

PERFORMANCE

Could the strategy have worked? Perhaps. But it was a classic mismatch: a holding force in an "important but not supreme area" against a growing force in a "strategically vital area"...but the same area. Consequently, the German forces allocated to hold were inadequate from the start if the British wished to contest control. The mismatch was all the worse since Rommel's Theater Strategy (immediate offensive operations to destroy British forces and capture Cairo) did not match Grand Strategy (hold in North Africa until Barbarosa concluded). Neither strategy nor commander were changed. Consequently, High Command allocation of forces, reinforcements, and resupply were based on one war, while in the estimation of the theater commander, a different war was imperative in order for his forces just to survive.

The German center of gravity of resupply proved more vulnerable than either the British centers of gravity of combat effectiveness or resupply. No matter what the exchange ratio, the British could always import more (even around the Horn) than the Axis.

The collective risk of the campaign was not calculated. Without Gibraltar, the Mediterranean and West African approaches were open. Without Malta, the middle theater was open to air interdiction. Without U-boat success in the Atlantic, British resupply increased around the Horn. Without Italy's navy, Axis resupply was doomed. With air support dwindling to feed

Barbarossa, overland supply was vulnerable.

It was a best-case strategy that required the British to respond in kind. It assumed that the British would hold in garrison if the Germans did. But Rommel struck east and the British struck back. At that point, could there be hope that the British would "hold" even if Rommel were restrained? There was no alternative plan to withdraw or reinforce.

Despite his inability (or unwillingness) to understand the larger strategy, and even in defeat, Rommel's generalship stands out in bold relief. With inadequate forces and supply, he fought the war of the desert fox: Maneuver, surprise, economy of force, concentration. But even he could not overcome time and attrition.

SUMMARY

And so, was it a case of Foxes, Fools, or Fate? The fools were in Germany. They had embarked upon a strategy of defeat. Too limited in aim, too limited in support, and in direct conflict with a resolute foe. Rommel was the true operational fox, balancing offensive maneuver and logistics in tactical success after success. And it was always in the vain hope that he could lobby support and avoid the strategic military defeat that he foresaw fate held.

And what conclusions might one draw? Not just an assessment of how Rommel or the Germans might have pulled it off. The study of

historical military strategy is a study to find answers to the future in reflections of the past. What conclusions might one draw for the future? There are a number of homilies that spring to mind: accurate intelligence, planning for logistics, air cover requirements for naval operations, air superiority. But what about strategy itself? One central thought is that strategy must be homogeneous. A Theater Strategy that does not follow and support Grand Strategy is almost worse than no strategy at all. But a Grand or National Strategy that is formed with no consideration of the realities of a supporting theater, and with no flexibility to adapt, runs the risk of perpetuating two bad strategies. Would we be so naive today?

What about just yesterday? Did the National Strategy for Korea in the 1950's reflect an accurate military assessment, or did MacArthur's. Did one support the other? (At least in that case, Truman's cure was clear.) Was it wise to engage in a graduated response and targeting system in Vietnam? A targetting system that took National Strategy for the region into consideration, but not the imperatives for winning in the theater?

And tomorrow? Yes, what about tomorrow? What about Light Divisions in Southwest Asia? Can they be supported to execute the strategy that will deploy them? What about the "when" of border crossings in a conventional war in Europe? Will a politically delayed authorization upset the interdiction and offensive air campaigns upon which much of the strategy rests? What about the effect of a delayed mobilization order on a NATO

war? Could National/Political realities be at odds with theater imperatives today?

The study of military strategy provides few answers but many questions. The challenge is to apply today's experience to yesterday's situations to seek tomorrow's answers. E.S.P. provides a framework with which to start.

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