SYNTHESIS

KEY TO EXECUTING COMBAT OPERATIONS

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INTRODUCTION

> "Many things, having full reference to one consent, may work contrariously: As many arrows loosed several ways, come to one mark; as many ways meet in one town; As many fresh streams meet in one salt sea; As many lines close in the dials' center; So may a thousand actions, once afoot, End in one purpose..."
>
> William Shakespeare

Our society suffocates with complacency. It basks in great wealth and affluence. Yet abject poverty, disparity of wealth, violence, illiteracy, erosion of values, insatiable appetite for drugs, and a growing sense of hopelessness contradict its greatness. Symptoms of our problems abound, but substantive attempts to find underlying causes then to solve its problems are rare.

Typically, our approach to solving complex problems is mendacious and lazy. Money and technology are the usual solutions, sometimes effecting a quick fix; but such fixes often are ephemeral at best, only covering up underlying causes, leaving more serious problems to surface later. The solution lies not in money and technology or other quick fixes, but in learning to understand problems so we can develop long-term solutions.

How can we become better problem solvers when we appear unable to think problems through to their roots or to define the scope of the problem? Our talents in traditional analytical thinking are not enough, although we are masters at analysis,

which Webster defines as, "...separation of an intellectual or substantial whole into its constituent parts for individual study."[1] Our society thrives on analysis and, in fact, depends upon it. Analysis itself has become the end, though, rather than a means to the end, a situation the advent of cheap, sophisticated computers has made almost easy. We analyze vast amounts of information with no purpose other than analysis for its own sake.

The type of thinking we aren't good at, though, is synthesis. Synthesis, according to Webster, is the "...fusion of separate elements or substances to form a coherent whole."[2] If we don't understand an entire problem, for example, we are doomed to living with quick fixes while another part of the problem waits to surface elsewhere. Focusing on parts rather than the whole leads either to simplistic or false conclusions. To understand wholes, we have to synthesize, not just analyze.

Grasping the whole problem, not simply looking at and studying an isolated part of it is the end we need to strive for in our thought processes. Wholes are comparable to systems and subsystems. A whole (subsystem) obviously or subtly, links with others to comprise the larger and smaller wholes (systems). Within these linkages often lie variables that affect the viability of the way subsystem-wholes interact with each other.

The Army is a microcosm of society at large; it has a similar inability to synthesize information into wholes. We in the Army are notoriously poor planners primarily because we are not adept at long-range planning. With our typically short-

sighted approach to planning, we don't think about the future, particularly potential problems. The result of short-sighted planning is unexpected events such as cost overruns, changes in technology and its applications, opponents' counteraction to our action, and adverse effects in personnel policies. As a testament to our planning abilities, consider the following questions:

- Why are we often caught by surprise?
- If we think smartly, why do we have so many overwhelmingly complex problems?
- Why do we try to define problems as simple when they are, in reality, tremendously complex?
- Why is our thinking simplistic and short-sighted?

The answers lie in learning to synthesize information and to think in interrelated wholes rather than in isolated parts of wholes.

We must learn to synthesize so we can expand our thinking, enhance our understanding of the world, and create our future. Using synthesis, we can anticipate problems by understanding entire problems rather than a collection of seemingly isolated parts. When we learn to synthesize, we will see how separate events or things relate to each other, and how wholes relate to similar and larger wholes.

We also need to realize the debilitative effect our inability to synthesize has on the Army and on society at large. By concentrating on analysis only, we fail to see the "forest for the trees." We concentrate so long and hard on one variable or problem, we end up seeing the problem in isolation.

Consequently, we fail to see relationships among variables or problems, and are then surprised at how an apparently small problem turns into a significant and complicated one.

Synthesis, as a way of thinking, is difficult to learn and difficult to teach. For those who find synthesis easy, teaching others how to synthesize is difficult. Yet, a commander must teach subordinates to synthesize, not just to analyze information and call it quits. Many valid approaches to discussing this problem probably exist. My approach concentrates on discussing problems with planners, developing criteria for an ideal planner, and thinking through the relationship of synthesis to war-fighting doctrine.

PROBLEMS WITH MILITARY PLANNING

> "There is a history in all mens lives,
> Figuring the nature of the times decreased;
> which observed, a man may prophesy, with a
> near aim, of the main chance of things as yet
> not come to life, which in their seeds And
> weak beginnings lie intreasured. Such things
> become the hatch and brood of time."
>
> William Shakespeare

Historically, the inadequacy of military planners has caused countless deaths, mutilation, destruction of property, and suffering -- think of Agincourt, Crimea, Gallopoli, Schlieffen Plan, French Plan XVII, Verdun, Somme, Barbarossa, Pearl Harbor, Yalu, VietNam, and Desert One. In defense of our professional forefathers, military planning is the most difficult of planning endeavors because the variables are abstruse and the outcomes are potentially costly.

Military planning combines science and art -- an art requiring tremendous intellect, particularly in analysis and synthesis. Such planning is not an easy task, as one authority states, "...war is as highly intellectual as astronomy. The main distinction between the one and the other is that the intellectual conception of the general must at once be so put into play as to call for the exertion of the moral forces of his character, while the astronomer's inspiration stops at a purely mental process."[3] Synthesis is, without question, the most important intellectual ingredient in successful planning.

SUCCESSFUL PLANNING

Some common threads exist for all successful plans. First, a commander's vision must drive the plan -- we typically call this vision a commander's concept of operation. General (retired) William DePuy explains concept of operation as, "...the principal tool of the commander for integrating all elements of the force in a unified effort against the enemy."[4] The commander captures this vision in his mind's eye -- he sees how he wants the drama to unfold and the effects he wants to create through either destruction or manipulation of his opponent's intellect and emotions.

Second, a plan must involve logic and analysis. In today's complex world, this process is particularly important; among other things, we must calculate how much modern fodder our engines of war will consume, how to move mines and ammunition over constrained and limited main supply routes (MSRs), how to resupply soldiers in harsh, distant, unpopulated terrain, how to find the enemy, how to anticipate the enemy's actions, and how to communicate. The interaction of many experts who perform extensive analyses of all factors in their areas of concern characterize a modern war plan.

Third, a plan must recognize the environments where execution will occur. Planners deal with many environments including weather, terrain, enemy, military, technological, political, economic, and host-nation populace. Understanding these environments provides the planner with an understanding of constraints that preclude the planner from reaching the theoretical ideal, e.g., rules of engagement.

Fourth, a planner must define critical information needs. No plans have perfect information, mostly because of the perpetually changing nature of environments. Information that explains, clarifies, defines, or suggests, therefore, fuels the plan's energy. Information also provides inference or implications to the planner for changing plans accordingly.

Fifth, a plan must anticipate short- and long-term cause-and-effect relationships. This process is almost as difficult as thinking through the concept of operation. Often, short-term cause-and-effect relationships are fairly obvious and easy to discern. Long-term relationships are difficult to anticipate because of the complexity of the variables that interact to make up the whole. Failure to anticipate long-term relationships, though, can have devastating effects such as our support of the Shah of Iran in the 1960s and 1970s.

Last, a plan must anticipate and identify obvious and discreet battlefield variable relationships. The planner must have the mental attributes to comprehend obvious relationships and must also be able to see relationships buried in ambiguity and hue. To use and manipulate these relationships, the planner must synthesize and understand the whole, pieces of the whole, and linkages of wholes, as articulated in the commander's concept of operation.

PROBLEMS IN PLANNING

Several problems denigrate our ability to plan. First and foremost, we rarely synthesize. Without synthesis, we don't

understand wholes well, comprehend obvious relationships (certainly not complicated ones) or anticipate and use the power of change to create our world. We don't understand the theory of force, counterforce; energy, counter-energy; or action, reaction. Planning cannot occur in a vacuum; it can occur only when the planner anticipates interaction of energy, especially opposing energy. To gain that understanding, the planner must understand relationships, the interaction of opposites, how bits and pieces relate to the whole, and how the opposition's wholes relate to our wholes.

Second, some commanders have trouble developing a plan's concept; even with one, many have difficulty articulating it. For a plan to be successful, commanders must articulate the concept completely with clearly understood definitions, not simply "seal the border," "destroy the enemy forces in zone." A thinking person would ask what "seal" means. Does the commander mean no enemy forces escape, or no enemy forces come in, or is he talking about infiltrators, or air? What is he saying? What does destroy enemy forces in the zone mean? Is it 60%, 70% of enemy soldiers, weapons, logistics, command and control? Precision of words drives subsystem planning, information collection, munitions planning, and other related activities. If the concept of operation is poorly thought through or articulated, the result is a reduction in clarity, hence understanding, and a corresponding reduction of the potential intellectual energy in a well thought-out concept.

Third, we have difficulty designating clearly understood criteria for success. Clearly articulated criteria for success

enable planners to understand what goal accomplishment means. Criteria for success also helps identify implications for functional areas, which enable planners and commanders to understand complementary battlefield relationships. Commanders should identify the desired effects -- criteria for success help determine if the effects have happened.

Fourth, commanders, at each level of command, have to create and join wholes, which comprise the concept of operation. In essence, commanders must look at each functional area -- such as artillery, maneuver, air defense, engineer, intelligence and electronic warfare, C2, logistics -- as wholes that fit into the larger whole, which is the concept of operation. Commanders and planners have to understand how their whole, complex as it is, fits within even larger and more complex wholes.

Fifth, commanders and planners have to think through change, not easy to understand or to cope with. With the inherent negative and positive energy change contains, commanders and planners must be able to capture the power of positive energy and use it for leverage or relative advantage. This complex mental procedure prepares branches and sequels, a series of "what ifs," to help chart the future course. FM 100-5 defines branches as "options for changing dispositions, orientations, or directions of movement and accepting or declining battle"[5] and sequels as "general disposition, objectives, and missions for subordinate units after the battle."[6] But the thinking power required to plan for branches and sequels is difficult, often falling into a "too hard" category, and ignored.

Sixth, we have to consider our ability to shape change. Does our traditional way of analytical, linear thinking, going from past to present to future, serve us well? Not likely. We appear to experience difficulty understanding variables and relationships and charting a coherent future course. Look, for example, at the millions of dollars advocated for intelligence collection systems to support traditional, conventional, European-style warfare. Where is the money for collection systems to support warfare against our new foes? Where is the money to help our officers understand what technology provides us? Has anyone considered the nature of war in the next twenty years, and war's influence on technology and thought?

Seventh, out of necessity, we have developed functional areas in which technical experts reside, able and willing to apply their expertise to problems in their areas. Few of these experts, however, either know or understand other functional areas; their "functional myopia" inhibits synthesis. Because our societal proclivity is toward analysis and knowing, synthesis and understanding have evolved into mere bystanders in the parade of mental activities that have dominated the Army during the past 50 years. Thus, along with coping with the enormous complexity inherent in each functional area, we have to develop a way to meld the intellectual energy in each functional area with the commander's concept. Commanders and planners must have a good understanding of what happens in functional areas, how functional areas relate to the whole, then integrate discreet variables to comprehend the battlefield and larger environments.

Future battlefields will be so complex that thousands of discreet activities or events will occur simultaneously. The object will be to mold these activities or events into an understandable whole, which Army leaders will have to look at from several perspectives. They need to understand what comprises their whole, then understand how to meld their whole's elements and events into an integrated unit, comprehend the nature of wholes subordinate to theirs, and see how their whole fits with larger wholes.

FUNTIONAL AREA PLANNING

In the 1800s, the Germans developed the general staff concept to deal with complexities of war and to replicate a Napoleon-type genius. They believed the collective intellect of several officers, linked by common backgrounds and goals, would transcend the genius of one individual and more than make up for the torpor of an intellectually inadequate leader. The concept has persisted over the years with varying degrees of success, but it has one major flaw: It inherently promotes isolated functional analysis of problems or events.

As functional areas become increasingly complex, the isolation of staff planners has increased proportionately. Without question, these officers are experts in their areas. But their expertise is meaningless unless they synthesize. Typically, their analyses rarely move into higher-level thinking such as integrating implications of one functional area to another; ascertaining how the strengths of one functional area complement weaknesses inherent in another area; understanding how

energy in a functional area relates to other functional areas and to the whole. Unfortunately, our functional experts have not learned how to synthesize information into a whole that transcends a single functional area.

Tomorrow's planning must be more cerebral than today's. It must provide an intellectual conceptualization of the future, in which physical, moral, and intellectual energy combine to chart the course of events. The seeds of the future lie dormant within the commander's concept, ready to come to life when impregnated by intellectual energy of commanders and planners.

To engage in this higher level of thinking, we have to alter our approach dramatically to thinking, and if nothing else, form thinking teams composed of analytical thinkers and those who synthesize well with those few, rare, creative thinkers. Such a team, with the commander's intellectual direction and will, would have an intellectual force of great magnitude. We will need this force to ensure our survival and to win future wars.

IDEAL PLANNER

> Reflections should be understood not simply as an act of thought, but rather as an attitude...an act whereby we stop, call something to mind, form a picture, and take up a relation to and...come to terms with what we have seen...
>
> Carl J. Jung

We must revolutionize the way we think by learning to synthesize, to think in wholes and their interrelated parts. Traditional analytical thinking is essential to synthesis, because it provides essential details for concepts. The end product of analytical thinking, though, must be to synthesize -- to put pieces of information and variables into a coherent whole.

Synthesis, a deceptively simple word, is unlike the way we normally think and is difficult to practice. Regardless of difficulty, we must master this type of thinking for several reasons. First, our world is extraordinarily complex and interrelated. At times, it seems that everything relates to everything else. Quantum theory, for example, reveals a basic unity in the universe, "As we penetrate into matter, nature does not show us any isolated 'basic building block,' but rather appears as a complicated web of relations between the various parts of the whole."[7] Further, a person cannot solve a social problem without understanding political and economic variables. Consider, too, our fragile ecological system. If we don't correct our ecological problems, life as we know it will cease to exist. But to clean up the environment, we must consider many

complex political, social, and economic variables that make up the whole problem.

Second, insidious enemies face us in our present world as they will in future worlds. Some enemies will remain the traditional ones, but a new type has emerged. The new type of enemy can be as blatant as a terrorist wielding the weapons of fear -- assassination, bombs, kidnapping, death -- to obtain political ends, or it can be a drug Mafioso thousands of miles away, with whom we have no contact other than seeing the malaise brought about by drug distribution. Traditionally, we have had an easily discernible enemy to focus resources and attention on; this won't necessarily be true in the future. In the drug war, for example, our new enemies are subtle, obscured by ambiguity and wrapped in a swaddling of protective nationalism. Drug dealers depend on an insatiable desire for drugs, fueled by an increasingly decadent society, and protected by an infrastructure of people economically dependent on drug production.

Third, our Army faces tremendous change. Powerful men argue cogently for a dramatic reduction in our defense budget, which seeks to maintain a heavy combat force against our traditional enemies, the Soviets. The Soviets have put on a new mask, a very deceptive and dangerous mask of benignity. Their mask of friendliness has led our decision makers to ask for reduction in the military budget. Thus, we have to manipulate the change to our advantage, ensuring we have an Army capable of meeting future threats and accomplishing tasks our political masters assign.

While arguments rage about the nature and intentions of our traditional enemies, the Army's role in dealing with the new enemy is difficult to forecast. Yet, we must learn to translate our views of the new enemy with all their sophistication and complicated economic, social, and political relationships into coherent requirements for doctrine, force structure, manning, and technology -- for money. We have to think of relationships and understand how pieces relate to each other and to the whole. We cannot merely analyze military aspects of our world. Instead, we have to understand complex social, economic, and political systems along with military systems to cope with and defeat our enemies. If we fail to synthesize, to plan well, and to shape our future, our Army could return to the preposterously inadequate Army that existed between the two world wars. Without question, recidivism is alive and well and our Army is highly susceptible to its intoxicating power.

These are three admittedly simplistic examples -- a complex world, insidious enemies, and change within the Army -- of macro-problems that demonstrate the need for us to change the way we think. Theoretically, we need a lot of tremendously bright people to plan our future. Along with traditional analytical thinkers, we need officers who can turn analysis into a coherent whole. We need planners at the macro-level who can understand complex social, political, economic, and military variables as they affect our own culture and the culture of our friends and traditional and non-traditional foes alike. Such planners have to understand how wholes fit with other wholes, and how subsystems fit within larger systems. Yet these planners cannot forget the

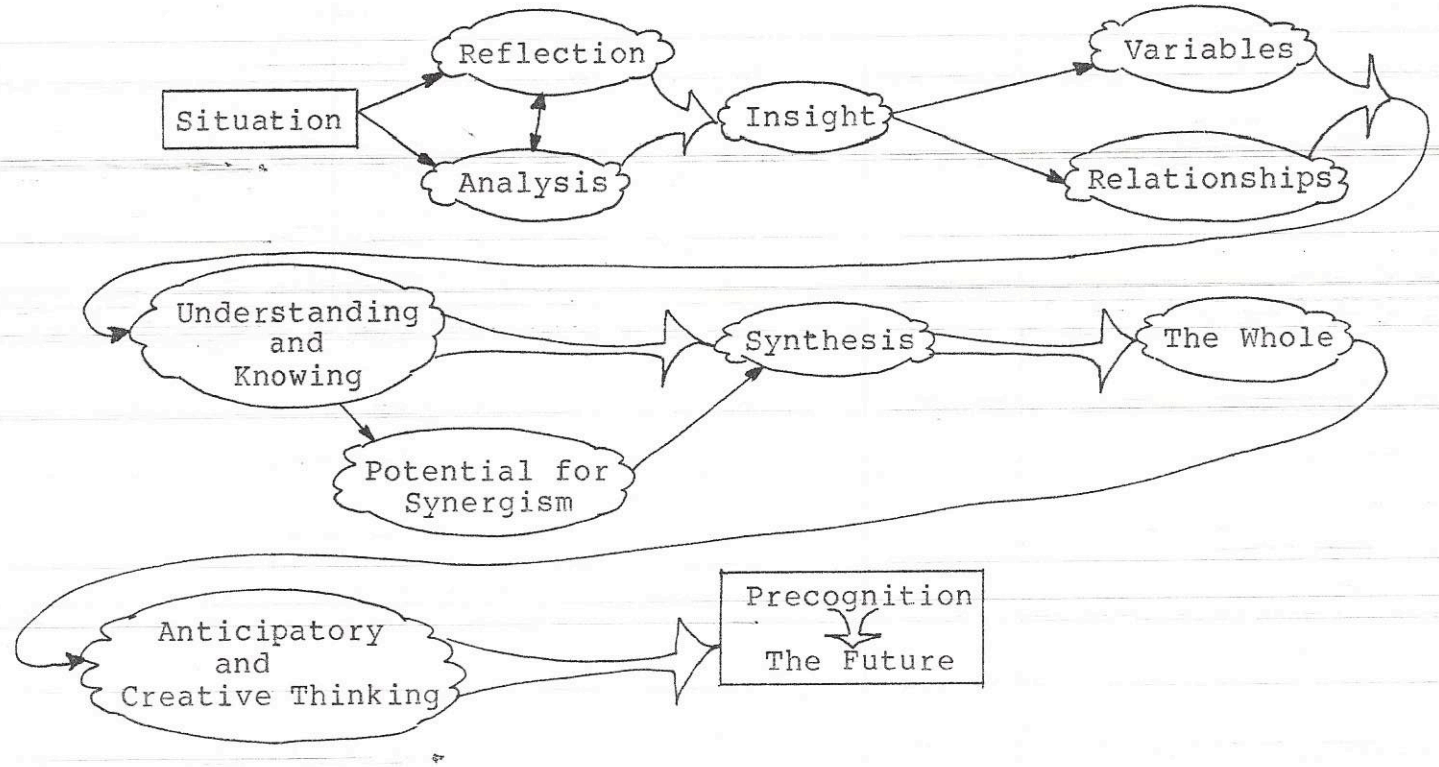
myriad of details discovered through analysis, and the human aspects of what happens within the social, political, economic, and military wholes. Such planners have to be comfortable with change and the relationships of human energy to change; they must recognize variables and relationships inherent in change to twist change to their advantage.

An ideal planner must understand what synergism means. Synergism, according to Webster, is "The action of two or more substances, organs, or organisms to achieve an effect of which each is individually incapable."[8] Synergism, to a planner, captures the strengths of each variable and combines strengths until the whole is much stronger than the sum of its individual components. Synergism requires holistic thinking, an understanding of variables and relationships among disparate and obvious variables. The ideal planner, though, has to be aware of the potential power synergism can release along with recognizing released power can cause deviations from desired endstates.

An ideal 21st century planner has to visualize the future. Naturally, planners need to use trends and forecasts from traditional analysis and historical projection. But the planner's vision of the future must transcend average bounds of thinking. Our ideal planner must synthesize to achieve holistic thinking that opens the door to precognition. Webster defines precognition as "Clairvoyant knowledge of something prior to its happening."[9] This does not mean bridging the gap between conscious and subconscious, where time is timeless, to look at the future. Instead, it indicates a person who synthesizes,

extrapolates, thinks in wholes, and is creative enough to understand how the future will be created, and to predict future events with some degree of accuracy.

The ideal planner has to be a creator and a destroyer. Before the planner can create, he must destroy anachronistic and traditional limitations on his own thinking to allow for new thought processes, then he must embark upon changing traditional thought patterns in those who have the power to bring new concepts into being. Basically, the ideal planner opens the door to the future in his mind and actually sees the desired end. He creates that future through the plan (idea) fueled by energy stemming from the intellect, emotion, and will. The planner must deal in wholes, relationships, reflection, and insight, as the following schematic illustrates.



PATH OF INTELLECTUAL ENERGY
Figure 1

The ideal planner must be creative by finding a new or better way to accomplish the task. A creative thinker is not bound by the constraints of traditional or anachronistic thinking, but lets the mind shift to the theoretical ideal, then works through the usual maze of constraints before finding a solution. A creative thinker often has flashes of intuition or insight into relationships, which fuel creative energy. Most important, though, a creative thinker has synthesized a mental picture of the whole, and the subsystems comprising the whole. From the mental picture, the creative thinker creates the goals and pieces that must meld together to make up the new whole. Then, the creative thinker fuels the idea with intellectual energy-thinking; emotional energy-passion; and moral energy-will, to create the idea.

The ideal planner, as a creator, enables his ideas or plans to become the future. In many respects, the ideas springing from the mind of the ideal planner become self-fulling prophesies. If the ideas are well articulated and cogently argued, others will accept them and infuse them with their own energies. The ideal planner understands how wholes connect with other wholes to create a larger whole. Further, our planner has insight into the linkages and relationships among wholes comprising ever larger wholes. Thus, he concentrates on creating environments conducive to his ideas. He also creates an understanding of his idea in the minds of those whose acquiescence spells life or death for the concept. With each convert to the viability of the idea, the idea gains additional energy, even when the idea is outside the bounds of traditional thought.

Unfortunately, few people are truly creative thinkers, although the potential for creative thinking is present, if dormant, in all of us in varying degrees. But environments conducive to creativity can flourish, and that is where commanders or supervisors can help. They can create the right environment for creative or new ideas by recognizing and rewarding subordinates who are creative thinkers, and by encouraging synthesis (which leads to creativity) so subordinates can comprehend relationships and gain insight into relationships. Commanders can create this environment by asking "why," "how do those thoughts relate to anything else," "so what," and by working through tactical scenarios in which the tremendous energy contained in synthesis and creativity can spring forth.