Seeking a Theory of
Tactical Intelligence
To Support the AirLand Battle

by

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ABSTRACT

SEEKING A THEORY OF TACTICAL INTELLIGENCE TO SUPPORT THE AIRLAND BATTLE: by Major Richard J. Quirk III

This study contrasts two opposing theories which have shaped the U.S. Army's tactical intelligence process since 1940. One theory holds that the best kind of tactical intelligence is predictive in nature. The other theory states that tactical intelligence should merely describe the current tactical situation.

The monograph evaluates three combat intelligence systems which emerged from these theories during and after World War II. The Intentions System purported to predict enemy actions based upon suspected enemy intentions. The Capabilities System promised to predict enemy action based upon his capabilities. The Descriptive System stated that prediction is irrelevant, and that the decision-maker needs only a clear description of the present battlefield.

The monograph draws heavily on observations made by World War II senior commanders, general officer boards, and Army Ground Force Observer teams.

From this study one could conclude that: the Army's command and staff planning sequence demands a predictive approach to intelligence, whether prediction is possible or not; predictive intelligence systems, again in use today, hide reality from the decision-maker by constructing estimates based upon successive assumptions; and, when making his decision, the commander is best served by relying on fact rather than assumption;

The study concludes that the U.S. Army should discard the predictive theory of tactical intelligence and adopt a descriptive approach.

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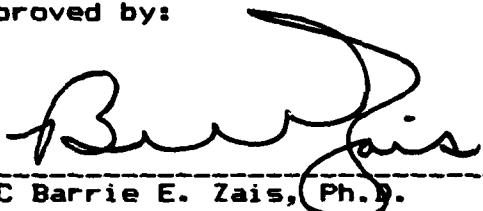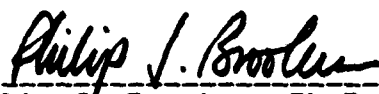
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INTRODUCTION

Within the past decade, combat intelligence has assumed a key role in the prosecution of US Army tactics. Our doctrine has made it clear that intelligence is a critical aspect of every operation. We have fully integrated intelligence activities into our tactical planning and execution processes. All Army organizations, from TRADOC agencies to units in the field, have applied intelligence considerations to every facet of Army operations.

The intelligence officer has seen his status elevated to a position of partnership with the operations officer. His services are in demand, and his advice is highly valued. If he has tnought deeply on the subject, however, he probably views this increase in credibility as a mixed blessing. With this well deserved recognition has come an awesome responsibility to provide the best possible information concerning the enemy, weather, and terrain.

To meet this responsibility, the intelligence community has instituted sweeping changes in theory, doctrine, organization, and equipment. Perhaps the most profound yet least understood of these is an adjustment in theory. Our underlying theories are not formally recognized or organized. In the past, our doctrinal manuals have not addressed them at all, but have dealt only at the level of procedure. However, the new theoretical orientation of FM 100-5 calls for an assessment of theory in all disciplines. Our theory of intelligence, even if it is unstated, is central to our process. From this theory emerge our expectations of tactical

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intelligence, as well as our specific doctrines, techniques, and structures.

Our current theory is that tactical intelligence must not only describe the present battlefield, but also predict the enemy commander's chosen course of action and his intentions for the future. The doctrine which has emerged from this theory states that intelligence must "provide an estimate of the situation and a projection of enemy intentions in sufficient time to permit the commander to select the most effective friendly course of action."[1] Our theory therefore assumes that it is possible to predict future enemy intentions. To many of today's intelligence officers, who have worked under no other theory, the prediction of enemy plans and actions seems to be a normal G-2 function.

Using tactical intelligence to predict the future is hardly a new application. The US Army began World War II with this same basic theory. However, during the war the concept gained a bad reputation which it held until the 1970's, when it again resurfaced as the Army's accepted intelligence theory. In view of its history in the US Army and its significant effect upon modern Army doctrine, the theory of intelligence prediction deserves close examination.

The purpose of this paper is therefore to determine whether the Army's current theory of predictive intelligence is the most feasible approach for supporting the AirLand Battle. Section I describes our World War II experience, which generated three distinct theories of tactical intelligence. This section illustrates the skepticism which we have historically maintained

concerning predictive intelligence. Section II discusses the
central dilemma which has caused us to alter our theory
repeatedly. It also outlines possible solutions to that dilemma.
Section III compares and contrasts the intelligence systems which
have emerged from the three World War II theories. Its evaluation
of these specific systems will assist in identifying strengths and
weaknesses inherent in each. Section IV, "Conclusions", assesses
the overall applicability of each theory to the modern
battlefield, and recommends a theory for adoption. The real
purpose of this paper, however, is not to identify conclusively a
"best solution". It is, rather, to stimulate deeper thought and
further analysis of the issue, in order that we may employ our
intelligence process prudently in the future.

SECTION I: THE HISTORICAL BACKGROUND

As the United States entered World War II, it found itself
very dependent upon the British intelligence apparatus for
strategic and tactical information.[2] This liaison brought great
quantities of detailed intelligence to our forces, and encouraged
us to adopt the British tactical intelligence system ourselves.[3]

The British and their counterparts, the Germans, both believed
that they could consistantly defeat their enemy by knowing his
next move.[4] They theorized that the role of tactical intelligence
was therefore to predict future enemy actions. Their intelligence
officers made these predictions based upon assumed enemy
intentions. They determined these intentions by applying their
knowledge of military logic, psychology, and doctrine to the

tactical situation.

Throughout the war, the U.S. Army remained dependent upon the
detailed information produced by the British. However, the Army
quickly became disenchanted with the British practice of
predicting enemy actions based upon enemy intentions.[□] In less
than a year, the U.S. Army dropped the Intentions System, because
of its unreliable predictions.[♣]

The Army did not totally discard predictive intelligence.
Doctrine developers theorized that it might still be possible to
predict future enemy actions if intelligence officers relied only
on physical evidence, rather than on speculation. To apply this
theory, they reached back into their own written doctrine of 1940,
and readopted "The Capabilities System of Intelligence".[·] The role
of the intelligence officer remained the same: to *eliminate*
uncertainty about the enemy. However, the approach became more
conservative, focusing upon the enemy's physical capabilities. The
G-2 estimated possible enemy courses of action based upon the
actual enemy situation, rather than upon the enemy's apparent
desires or doctrine.

As the intelligence process became more conservative, so did
its expectations. The Capabilities System did not require the G-2
to predict the enemy's chosen course of action. Such a stipulation
had been a major cause of failure in the Intentions System.
However, the process did permit the intelligence officer to rank
order possible enemy capabilities in a statement of "relative
probability of adoption" within his intelligence estimate.[●] The
doctrine limited the G-2's prioritizing to only those occasions

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when he had sound justification to do so. It specifically forbade him from drawing such conclusions from his own speculation alone.

Commanders and G-2's viewed this doctrine as an excellent compromise between the one extreme of mere historical reporting and the other extreme of unfounded guessing. Early in an operation, the G-2 could not be expected to predict the enemy's next move. However, later, as various intelligence indicators appeared, he could state with greater and greater assurance the enemy's probable course of action. The commander could either begin with a broad plan and gradually focus his resources as the situation cleared, or he could take risk and focus early. Echoing the belief of the period, BG Oscar Koch, General Patton's G-2, wrote that this was the only reasonable foundation for analysis; "No matter what the intentions of the enemy might be, he must have the capabilities to execute them:...For intelligence purposes, only one thing counts: capabilities."[*]

Our tactical intelligence improved somewhat under the Capabilities System. However, its product remained far from satisfactory. Because of human nature, this compromise approach did not solve the prediction problem. Commanders generally disregarded the restrictions and required a statement of the enemy's probable course of action in every estimate. G-2's issued such predictions regardless of the amount of reliable information at hand. In many commands, the intelligence product was little different than the product of the original Intentions System. By June 1944, many G-2's were again speculating based upon nothing more than enemy doctrine and psychology. The Ardennes Offensive in

December was an outstanding example of our de facto return to the
Intentions System, and an illustration of its effects.[10]

In its post-war reviews of the process, the War Department
concluded that the situation had not greatly improved under the
Capabilities system. In December, 1945, the Lovett Board ("The
Committee Appointed by the Secretary of War to Study War
Department Intelligence Activities"), ruled that;

> There has been, at all levels, a lack of understanding
> of the proper function of intelligence. Primary emphasis
> has been put on furnishing conclusions as to enemy
> intentions rather than on presenting facts bearing on
> the enemy situation and capabilities. Commanders have
> expected intelligence sections to tell them what the
> enemy is going to do, instead of presenting the facts
> from which the commander might make the necessary
> determinations or assumptions, and intelligence officers
> have attempted to meet the requirement. In essence, the
> process has been one of transferring an important
> command responsibility from the commander to his G-2. [11]

For the next decade, the Army periodically reviewed this
problem and sought an effective solution. In July 1948, LTG Manton
Eddy, then Commandant of the Command and General Staff College,
conducted a study to determine whether the G-2 should make any
estimate of the enemy's most probable couse of action. Thirty-five
of the most notable World War II general officers, and many of
their former G-2's, responded to his questionnaire. They
unanimously rejected a return to the Intentions System. The great
majority voted for continued use of the Capabilities System. These
commanders had dealt personally with the problem of prediction in
wartime. Although they had seen some successes with the process,
almost all of these leaders had developed a healthy skepticism of
any predictions because of the "intelligence failures" which they

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had witnessed. In their responses to LTG Eddy's question, they recommended many additional restraints on the doctrine. They indicated that, somehow, future commanders and G-2's would need the same sense of skepticism which they had developed only through sobering experience. Some recommended intensive leader training, or even a rewording of doctrine to limit further the use of the "Relative Probability of Adoption" statement in the intelligence estimate. Most commanders, though, could envision no better solution than enforcement of the conservative spirit of the Capabilities System. LTG C. R. Huebner captured the general feeling of his contemporaries when he wrote, "If an intelligence officer merely lists the enemy capabilities, he leaves part of his work undone." [12]

A few commanders were even more conservative in their responses. GEN Lawton Collins, MG C. E. Byers, and LTG R. L. Eichelberger commented that the G-2 should list enemy capabilities without prioritizing them. A few others recommended that the G-2 prioritize based upon the degree of threat which these capabilities posed to the commander's plan. These commanders preferred to make their own predictions, or to avoid prediction altogether and deal only in fact. Both of these approaches reflected a non-predictive theory of intelligence, These commanders seemed comfortable with a firm knowledge of the current situation. LTG Eddy apparently did not investigate their divergent theory any further. We retained the Capabilities System.

However, the search for a better technique continued. In 1955, COL Elias C. Townsend, a World War II division G-2,

concluded that we had never really changed our predictive style of intelligence when we adopted the Capabilities System. The intelligence estimate still caused the G-2 to predict enemy intentions. He approached the entire subject with a unique theory, different than those which produced the Intentions and Capabilities Systems. He believed that <u>it is not possible</u> to predict the future with any reliability. In his book, <u>Risks, the Key to Combat Intelligence</u>, COL Townsend proposed a command and staff process which permitted no prediction at all: a view perhaps similar to that of GEN Collins.[13] He saw prediction as unnecessary, and wrote that the function of intelligence is not to eliminate uncertainty, but rather, to make the commander's risks known. In much the same way that Clausewitz[14] had done a century earlier, he pointed out that "Risks are the commodities in which a commander deals. They are the common denominator for the discussion of the situation with a commander and for understanding his point of view". [15] He defined the commander's risks, not as all uncertainties, but as "All enemy capabilities greater than those that can be handled by his (the commander's) own resources." He stated that the critical uncertainties for a commander relate to his unknown risks; "The commander who knows what his risks are is a well informed commander; in fact he cannot be better informed." [16] He then charged the G-2 with the duty to identify the commander's risks relative to enemy, weather, and terrain. He wrote, "In essence, the whole purpose of combat intelligence, its whole reason for being, should be to reduce or eliminate the commander's unknown risks."[17]

Having redefined the G-2's function (and by inference, the function of the staff as a whole), Townsend altered the intelligence process as well. Recommending a doctrine hereafter called "The Descriptive System of Intelligence", he required the G-2 to concentrate on knowing facts about the enemy's current situation. His use of the word *Fact* recalls the lack of solid fact mentioned repeatedly by the Lovett Board (See p. 7) The G-2 in Townsend's system draws from his information a firmly founded description of the current enemy situation and an analysis of its tactical capabilities, and he keeps the commander informed of both. In so doing, he provides the commander with one factual element of his operational risk assessment. The commander, by comparing this intelligence with factual information from other staffs, can accurately assess his known risks and envision the risks which might yet be hidden. He can then best make his decision, or redirect his staff. Although the G-2 might informally speculate for the commander concerning future enemy actions, this wargaming or predicting effort would not be a part of the formal decision making process.

COL Townsend became a key intelligence figure in the years that followed, eventually being promoted to Major General and serving as the Commander of the U.S. Army Intelligence Command prior to his retirement. His book sold well and was recommended by the Director of Central Intelligence and the Army Assistant Chief of Staff, G-2. His system, however, was never adopted. It may be that his concept of decision making without prediction demanded a reexamination of our basic philosophies and a fundamental

redirection of our doctrine. The Army may not have been prepared
to do either of these.

However, the Army intelligence community did retain, for many
years, its World War II skepticism of the estimating process. As
late as 1970, the U.S. Army Intelligence school continued to
condemn the Intentions System, teaching that the intelligence
officer must be cautious in his predictions, and deal only in
capabilities. By that time, however, the last of the World War II
veterans were retiring from their second careers as civilian
instructors. The warnings were vague, and few new instructors or
doctrine writers could explain the reasons for them. By 1973, the
institutional memory had evidently faded, because FM 30-5, Combat
Intelligence, was rewritten *directing* the G-2 to include in every
intelligence estimate a statement of all enemy courses of action
"listed in order of relative probability of adoption." The
prediction was again required. [18]

Part of the reason for this revision was a growing movement in
the Army emphasizing the need for "predictive intelligence" once
again. In the later days of Vietnam, intelligence officers were
accused of dealing only in history. They were challenged to
determine what would happen tomorrow, not merely to report on what
had happened yesterday. Most intelligence officers attempted to
rise to the challenge, just as they had in World War II.

The results were mixed. Some commanders experienced big
payoffs with prediction. They became great believers in the
theory. However, despite the vast U.S. technical intelligence
superiority, and the relatively unsophisticated enemy, many

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commanders only became disillusioned with intelligence officers
who resorted to prediction. They heard their G-2's incorrectly
predict enemy attack night after night, and they experienced the
same frustrations that Bradley had experienced 25 years earlier
when he wrote of his intelligence officer, "Monk Dickson was as
brilliant and skilled a G-2 as served in the American Army...But
like most G-2's, he was often a pessimist and an alarmist. Had I
gone on guard everytime Dickson, or any other G-2 called wolf, we
would never have taken many of the riskier moves that hastened the
end of the war."[19]

Since Vietnam, the U.S. Army has refocused on Western Europe,
and has grappled with the mission of "Fight Outnumbered and Win".
The Army has come to rely upon intelligence as a key to success.
Rather than applying caution based upon the Vietnam experience,
intelligence officers have again attempted to meet the challenge,
by reinstating the old Intentions System.[20]

Has anything really changed since the early days of World War
II? We can infer that any allowance for prediction has
historically devolved back to the pure Intentions System. Yet we
can find no general pattern of success with that system. However,
recent technological changes make us doubt the relevance of World
War II history. We must evaluate the impact of modern systems on
these theories, and we will do so in Section III. First, however,
we will draw from our historical evidence a deeper understanding
of the nature of the entire issue.

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SECTION II: THE THEORETICAL DILEMMA

The question of our ability to predict seems to be a key to the intelligence problem. In evaluating our intelligence system we must look deeply into this question. The root of our problem may be in the theory itself.

Our traditional answer to the question "Can we predict?" has been, tacitly, "We have no choice, we must predict!" This answer implies the existance of a philosophical dilemma. It is a dilemma which commanders have faced since ancient times, when intelligence officers proposed to divine the future by studying the entrails of a goat. "On the one hand, common sense and experience tell us that one cannot reliably predict the future (Premise #1). On the other hand, we _must_ predict the future if we are to effectively plan (Premise #2). Whether we can accurately predict or not, we have no choice but to try". This answer has not been based upon hard, scientific evidence; nor can it be. There is no objective proof which guarantees the accuracy of predictions. Our traditional answer has actually represented _a decision to try_ to predict, rather than a conclusion that prediction is indeed possible. Both the Intentions and the Capabilities Systems emerged from this decision.

The Army apparently scrapped the Intentions System because it failed to predict accurately. However, its failure may have been much more serious than an erroneous conclusion at the bottom of an intelligence estimate. The entire estimate was a fabric of tightly woven fact and assumption. The commander, and even the G-2

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himself, had lost touch with the facts. When a prediction failed, the commander had no factual base from which to reevaluate the situation. It may have been the commander's loss of touch with reality that caused the Army to revoke the system.

This would explain why the replacement Capabilities System did not disavow prediction. It merely required that such a prediction be founded upon demonstrated, factual enemy capabilities. Unfortunately, the commander and the G-2 often viewed the optional prediction as the ultimate goal. Despite the built-in doctrinal cautions, the G-2 again felt compelled to make major assumptions in order to arrive at the "most probable course of action". He again accepted risk, and the commander was again placed out of touch. In many commands, the Intentions System was back under a new name. By the end of the War, the Lovett Board therefore perceived no great revolution associated with our adoption of the Capabilities System. It uniformly condemned the intelligence function under both systems, stating; "...Army intelligence, even after the experience of the war years, is dangerously inadequate for the task that lies ahead of the Army during the next generation.".[21] Our dependancy upon speculation had been almost continuous throughout the entire period. We had not fixed the problem.

If the decision to "Try to predict" has failed us so often in the past, we must ask ourselves why we have consistantly come back to the same decision today.

In truth, we chose the predictive theory of intelligence when we adopted our military decision making process. Our view of

decision making is that the staff provides the commander with
predictive estimates about the enemy and friendly situations,
which the commander uses to prepare his own estimate and to make
the decision. This style of decision making ostensibly frees th.
commander from the need for detailed knowledge of the situation,
and permits him to use the technical expertise of his staff.
Unfortunately, it also decentralizes much of his risk taking
(decision making) authority and gives it to the staff. For
example, when the G-2 prepares an intelligence estimate, he makes
a long succession of assumptions about the enemy, weather, and
terrain. With each assumption, the G-2, or his analysts, are
accepting risk, a function which should be reserved for the
commander. By attempting to make his decision based upon such
estimates, the commander remains out of touch with reality. He
cannot distinguish fact from assumption, and he therefore cannot
evaluate the conclusions of each staff estimate. He must judge
them based upon intuition, personal observation, or his trust in
his staff officers. Furthermore, because he has no arsenal of
facts for constructing his own, independent estimate, he is
somewhat bound to those constructed by his staff. The value of
these estimates is also degraded by the fact that they must
usually be prepared simultaneously, rather than in sequence.
Ideally, the intelligence estimate would be completed before
others are begun. Under the usual time constraints, however, the
G-3 is developing friendly courses of action before the G-2 has
been able to complete his estimate of the effects of the enemy,
weather, and terrain. The G-1 and G-4 are attempting to estimate

their abilities to support the G-3's courses of action before the G-3 has completed them. As a result, the estimates are often uncoordinated and divergent. The staff has not expanded the commander's awareness of reality. It has constrained his perception by the limitations which it built in during the staff estimate process. The commander is not making the entire tactical decision himself. Much of the decision has been made in the staff estimates. The Intentions and Capabilities Systems of intelligence are inevitable products of this decision making process.

Most Army officers however, cannot envision an alternate system of intelligence which does away with prediction and seeks only to factually describe the present. The Descriptive System of intelligence begins to make sense only if we are willing to consider changing our entire process of decision making. The Descriptive System supports a foreign decision making process: one in which the commander retains full authority for accepting risks, by restricting the process of staff assumptions. Using such a decision making process, the commander charges his staff to determine the facts about the current situation and to keep him informed of those facts. By knowing all available facts, the commander can best identify his risks, evaluate possible courses of action, and make a decision. Since the staff provides factual information to the commander prior to the conduct of the estimate, his single estimate can coordinate and unify all of the staff inputs better than it can under the Intentions System, when all staff officers develop their estimates simultaneously with insufficient coordination among themselves. This style of decision

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making does not preclude the commander from getting advice, opinions, and hypotheses from his staff. It merely guarantees him full knowledge of all available facts for his assessment of risks. Because the staff is oriented primarily on fact finding rather than estimating, it should uncover more facts than the predictive systems can. This style of decision making permits a much shorter decision cycle than the current system, because the staff simply provides the current situation to the commander, and does not have to delay while conducting its estimates. Each staff officer assists the commander in the development of his estimate, which is the only estimate needed in the command. Since the commander knows exactly what facts are available, he knows, too, the extent of his possible unknown risks, and can consider the degree of risk in making his final decision.

This process has its disadvantages, as well. First of all, the commander must be more involved with the situation in order to make his decision. He cannot be spoon fed, but must instead think through the available facts himself. Second, since this process points out all known risks to the command, the commander may be tempted to spread his resources too thin in an effort to counter every enemy capability. He must understand his inherent responsibility to accept risk in making his decision. Those risks exist whether the commander knows about them or not. No intelligence system erases risks. The Descriptive System is based upon the belief that the commander is better off if he knows about his risks than if his staff dismisses those risks without informing him.

The dilemma we face should now be clear. Our World War II experience demonstrates that we cannot reliably predict the future. However, the Army's decision making process demands that we do so. Modern intelligence officers live under an ill fitting doctrine which seems to promise more than it has ever delivered. Despite the historical evidence of failure in intelligence prediction, we remain committed to it because it is consistent with our decision making process. We have no choice. We must predict.

SECTION III: AN EXAMINATION OF THE SYSTEMS

Two questions yet remain unanswered. "Is it now possible, in this age of high technology, to predict the future accurately?", and "Can any system of intelligence better serve the commander's needs than the Intentions System?". This section seeks to answer these two questions. We will examine our modern version of the Intentions System to determine whether its predictions could be reliable. We will also compare its techniques to those of the Capabilities and Descriptive Systems, in order to evaluate each system's ability to support the AirLand Battle. The following discussion revolves around the G-2's actions, first in the Command and Staff Planning Sequence, and then in the execution of an operation by a combat division. The discussion begins with the division's receipt of a tactical mission.

All three systems agree that the intelligence officer's initial responsibility in the command and staff planning sequence

is to rapidly review his available information and provide it to
the commander and other staff officers for use in their
estimates..[22]

The Descriptive System makes no promise to provide a complete
picture of the situation. It offers only the confirmed information
at hand. For this reason, the G-2 can provide his assistance at
any time, even immediately upon receipt of the mission. In his
situation briefing, the G-2 gives confirmed intelligence
information, unconfirmed reports or indicators, and unknowns, such
as unlocated enemy units. He enumerates those enemy capabilities
which he can confirm, as well as those which he suspects, and
those which he can positively deny.

If the entire command subscribes to this approach, then the
commander can dispense with staff estimates, and can begin his own
estimate immediately after the initial staff situation briefings.
He can capitalize upon the advice and informal opinion of his
staff officers as he prepares his estimate, but he does so with
full knowledge of the facts available. Higher and lower units may
also make use of the factual information which the command has
developed, with no fear of introducing biases into their planning
efforts.

The commander has a basis in fact from which he can assess his
risks. He has no illusions as to the quantity of confirmed
information used in the estimating process. He can knowledgeably
criticize his G-2 for having collected insufficient information,
and he can accurately define his most critical uncertainties. If
the intelligence information available for his decision making is

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skimpy, the commander realizes it from the outset, and therefore recognizes the potential enormity of his unknown risks. Combining the intelligence summary with factual summaries from other staff officers, the commander knows all that can be known, and can knowledgeably accept risk in chosen areas. He can communicate his decision, in terms of the risks involved, to his commander. He is able to shorten his decision cycle, coming to a decision faster than through the use of the Intentions or Capabilities Systems. He is also able to base his decisions on fact, on a conscious acceptance of known risks. The commander will likely have to prioritize enemy capabilities in order to allocate his resources. However, he will prioritize based upon the enemy course of action which poses the greatest threat to his plan. Note that this is not a predictive approach in any way, and that he cannot so prioritize until after he has made a decision and chosen a friendly course of action. In effect, the commander makes his decision based upon his own intention, not in reaction to possible enemy intentions. He then directs his resources toward insuring his own success by securing his operation from the most threatening enemy reaction. He is taking the Initiative, and dictating that the enemy conform to his plan. He is "Shaping the Battle".

Of course, this conservative system does not offer the complete picture of the enemy's chosen course of action, timetable, mission, or objectives which the predictive systems can offer. It does not permit the commander to design set-piece battles, as the other systems seem to do. The commander must be able to live with uncertainty, and he must be decisive.

The Intentions System, on the other hand, does promise the advantages of a prediction. As payment, it demands a completed intelligence estimate. Although the G-2 can disseminate some current information initially upon the commander's receipt of the mission; he must, like the other staff officers, conduct an estimate before he can perform his full function. This aspect of the system lengthens the decision cycle.

Under both the Capabilities and Intentions Systems, the G-2 is required to identify courses of action open to the enemy, rank them in probable order of adoption, and predict the enemy's most likely course of action. The Intentions System further requires the G-2 to predict the intentions of the enemy. In order to provide a complete estimate, the G-2 must eliminate all gaps in his information holdings, gaps which the Descriptive System simply accepts as inevitable. He plugs these gaps with various types of assumptions, such as intelligence indicators.

Indicators are specific events which *tend to indicate* the enemy's choice of a course of action. Whereas the Descriptive System makes no conclusions based upon indicators, and uses them only to focus additional collection, the Intentions System accepts indicators as evidence, or even proof, of the enemy's course of action. This practice opens the intelligence process to enemy deception. The G-2 plugs other informational gaps with unconfirmed information, especially if that information agrees with his view of the enemy's intentions. Under the Intentions system, the G-2 goes on to fill in the remaining gaps, and to choose the enemy's most likely course of action, by interpreting the situation

through his own understanding of enemy doctrine and psychology. Our doctrine states that "Each enemy capability is judged from the enemy point of view."[23] The G-2's assumptions based upon enemy doctrine or viewpoint can fill in gaps of any size, and often patch great holes in contingency planning estimates. In this way, the intelligence officer is always able to produce a complete estimate which concludes with the probable enemy course of action and intentions. Under the Capabilities System, the G-2 theoretically makes a prediction only if it can be based upon confirmed enemy capabilities. However, the system permits the G-2 to consider indications, and it therefore is almost as risky as the Intentions System.

With this estimating process the modern Intentions and Capabilities Systems promise that they can predict more accurately than their predecessors. We will therefore look inside the modern techniques and determine whether their reliability could have improved since World War II.

Today's tactical intelligence estimating process is based upon Intelligence Preparation of the Battlefield (IPB), which is a "systematic approach to analyzing enemy, weather, and terrain in a specific geographic area."[24] It is a modeling process which seeks to narrow the field of possible enemy courses of action, based upon a series of successive assumptions.

We begin the IPB by estimating the enemy order of battle. Our tactical order of battle process today is certainly no more sophisticated than it was in 1944, when we maintained volumes of information on opposing units.[25] Computers and high speed

communications have eased the clerical work, but that clerical work was accomplished in World War II. Our new system gives us no advantage here. Nevertheless, in contingency planning efforts, we sometimes project the movement of enemy units which are far out of contact, perhaps hundreds of miles, in order to determine which of them may face us. That all of this projection will come to pass as we have assumed is no more assured today than it was in 1944.

We accept these order of battle assumptions as correct, and begin our next step, which is to model, or template, the doctrinal disposition which this hypothetical enemy force will attempt to· take as it approaches. This effort probably limits our thinking far more than it does the enemy's. From our viewpoint, the enemy commander wants to conform to this model as best he can. However, in reality, the enemy wants only to win. It is safer to assume that he will use whatever disposition favors his victory. As an example, In World War II, the Soviets frequently concentrated enormous forces on very narrow fronts, such as a division across five kilometers or less in the main attack.[24] They did this because it was necessary in order to penetrate enemy defenses. Yet, today, we typically develop templates depicting Soviet main attacks on 20 km fronts, certainly a best case situation from our point of view. [27] In our attempt to see the battle "as the enemy commander sees it", we color our assumptions by our own American mindset, and we tend to portray the enemy as we would like him to act. Although we teach in tactics the necessity of at least a three to one combat power ratio for a successful attack, and we know that the Soviets prefer much higher ratios themselves, we are

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reluctant to portray such difficult situations in our wargames or estimates. It is our mental rigidity, as exemplified here, that makes the doctrinal template a danger to our estimate even as it permits us to narrow "possible" enemy courses of action. Predicting what the enemy is willing and not willing to do based upon his doctrine is a classical shortcoming of the Intentions System. We are no more accurate in preparing these templates today than the Germans were against the Russians in World War II. Our computer models cannot free us from our own biases.

In the next step of the IPB process, we analyze the terrain and weather. Our terrain analysts are indeed highly trained, but they still use many of the same skills used by unit Topographic Draftsmen in World War II[20] They can determine only so much from a topographic map, aerial photo, or even digitized terrain data. Because the IPB process demands that they deliniate restrictive maneuver corridors, choke points, and key terrain features, and that they make decisions about trafficability without a great deal of field checking, their work becomes a tangle of assumptions. Their assumptions, like all of the others, are useful for wargame modeling, but not necessarily for accurate decision making. The question of whether T-72 tanks can maneuver through a certain forest, or ford a given river, can only be conclusively answered by the tanks themselves, not by an analyst looking over a map. The Ardennes should have taught us that. Our modern computer systems merely use the analysts' assumptions as a foundation for the modeling process. They do not inherently increase the accuracy of the analysis itself.

Next, we apply all of these assumptions, as if they were fact, to a situation template. This template leads to more assumptions, which, according to our doctrine, are reliable enough to tell us "how the enemy will fight"[29] It would appear that, through IFB, we can limit the enemy's options, and dictate his operational limitations to him ourselves.

Of course, our IFB process assumes that the enemy is relatively inflexible and predictable. Much of our military writing today, however, points out that the Soviets are bent on doing the unexpected, and that they are very flexible, especially above division level.[30] Our assumption of enemy inflexibility is convenient, but not necessarily accurate. In reality, our estimating process has made us inflexible and predictable. It is so systematized that it may assist the enemy commander in guessing our estimate and our final decision. It will be even more systematized when it is conducted by a computer, such as the All Source Analysis System (ASAS). Our standardized process may thereby increase our succeptability to surprise or deception. The capture of an ASAS on a future battlefield could enable the enemy to read our corporate mind, much like the capture of Enigma permitted the Allies to read German communications in World War II.

Our determination to complete an intelligence estimate and to make a prediction shows itself today in many unit exercises and contingency planning efforts. Regardless of the amount of initial information provided, the intelligence officer will always produce a finished estimate. In the heat of a planning effort, no one

wants to hear the G-2 stand up and say, "I'm sorry sir, I do not have enough information to predict the enemy's most likely course of action." Rarely do we find a G-2 who will admit it. Our willingness to predict based upon very little information harkens back on our traditional answer to the dilemma; "We have no choice, we must predict!"

Intelligence training at the Command and General Staff College illustrates the way in which we orient our officers on the need to predict regardless of the risk involved. All students at the College are taught to mechanically complete an IPB and an intelligence estimate with nothing more than a map, a short enemy situation, and a friendly mission statement. That these students would agree to conduct such an analysis with so little information demonstrates our willingness to fill information vacuums with assumptions. That their IPB's and estimates differ so markedly, even among trained intelligence officers, should demonstrate the unreliability of these estimating techniques.

Although the G-2 may have little confirmed information to serve as a basis, the Intentions System permits him to finish the estimating process with a few extremely well defined models of enemy courses of action. These models often include specific enemy formations, routes of march, timetables, objectives and missions, degree of artillery support, decisive points, and the location of enemy center of gravity. He seems able to describe each course of action with as much detail as that previously found in a ficticious scenerio or in a report of a historical battle.

His intelligence estimate with its professionally drawn

terrain analysis and exquisite detail sells itself to the
commander. Despite its apparent detail, however, it presents an
incomplete view of reality. The IPB process which enables him to
construct his very specific models also requires that he ignore
many other plausible enemy courses of action which would call for
quite different friendly plans. His models fail to portray the
full range of possibilities. He may thereby lead his commander
into the jaws of enemy deception and surprise. All of the enemy's
published doctrines bind the G-2 in his estimate even more than
they bind the enemy in his execution. They may be the enemy's most
powerful deception tool. Although the G-2 will eventually use
computers to aid him in the modeling effort, nothing of substance
will really change here. He will merely be employing a faster
version of the same process used by the Germans to predict the Pas
de Calais rather than Normandy as our invasion beach in 1944.[31]

To be of real value, the intelligence estimate must depict
every possible enemy course of action. This does not mean that the
G-2 must describe them all in detail. The G-2 may categorize the
possibles into generalized groups, each requiring a distinct
response from the commander. If the G-2 chooses to become very
specific in his description of an enemy course of action, as he
does in IPB, then he must simultaneously make the commander aware
of all other possibilities which would pose significantly
different situations to the commander. Thus, by being very
specific, the G-2 causes the number of enemy courses of action to
increase, not decrease. The fallacy in the Intentions process is
that the G-2 becomes more specific in his description of the enemy

courses of action while at the same time cutting the apparent number of courses of action, often to only one.

Where, then, is our quantum improvement in modern intelligence estimating which assures its increased reliability? There is no evidence that today's Intentions System is any more capable of predicting the future than the Intentions System discarded by the U.S. Army in 1943.

What can the commander do with such an estimate when it is completed? It should be clear by now that he will have difficulty in separating fact from assumption. There is no requirement for the intelligence officer to separate the two. Indeed, the Army has largely abandoned the traditional two digit code for evaluating the reliability and accuracy of intelligence reports in the field. The G-2 may inform the commander about his most glaring assumptions. However, he does not know the full extent of the assumption process himself, because analysts at various levels are permitted to inject assumptions into their estimates. The finished estimate is so complete and detailed that the commander may not even attempt to challenge it or to trace the threads of assumptions which comprise it. He is almost forced by its detail and complexity to accept or to reject its conclusions_in toto_, rather than to question its assumptions. If he has faith in his G-2, or if the estimate agrees with his preconceived notions, then he will probably accept the estimate regardless of its accuracy. He will then prepare his own estimate and make his decision.

The Intelligence Cycle   The G-2 Develops his estimate and his

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situation reports by *Processing* available information. This
processing function is one of the four steps of the classical
intelligence cycle.[31] The G-2 and his staff continually process
available information and periodically *Disseminate* (Step II) that
information by the use of various report formats, such as the
estimate.

In order to gain further information, the G-2 manages the
intelligence collection assets of the command by formulating and
issuing specific intelligence orders and requests to collection
resources.   Through this *Directing* Process (Step III), the
intelligence officer focuses scarce collection resources to answer
the commander's most critical uncertainties about the battlefield
(Formerly called EEI, now Priority Intelligence Requirements, or
PIR). As the manager of all collectors, he provides specific
collection tasks to all units in the command. The common PIR's
today demonstrate this fact in that they are all forward looking;
for example,"When, where, and in what strength will the enemy
attack?" In order to answer these questions about the future, the
G-2 relies upon the models which he has constructed in the
estimate. He identifies events which, if present, would indicate
the enemy's adoption or rejection of his models. He attempts to
identify probable locations for these events. Hefocuses
intelligence collection activities upon these events, which are
called indicators, and upon these locations, which we call Named
Areas of Interest (NAI's). In this way, he is testing the
hypotheses, or models, which he developed during the estimating
process. This technique promises to make best use of limited

intelligence resources, and to validate the G-2's predictions early. On the other hand, because it relies upon accuracy of the G-2's models, this process may focus intelligence resources against hypothetical enemy courses of action while it neglects the enemy's actual course.

AirLand Battle places an additional responsibility upon this Directing effort. Because the intelligence system can reputedly predict the future, and does template possible opportunities for deep operations, the AirLand Battle Doctrine has assigned to it a function of triggering deep operations. The commander now relies upon the G-2 and his IPB process to predict enemy timetables. Through the use of Named Areas of Interest, the commander expects the G-2 to tell him when the enemy will arrive, and when he has arrived at a given point on the battlefield. The commander, based upon various time-distance calculations, then launches his deep operations to intercept the enemy force at another point on his route of march. The intelligence system is now serving as a type of command and control system, dictating the initiation of a critical phase in an operation. The G-2 must not only correctly estimate the enemy's specific course of action and timetable, but must then insert a collection capability with the appropriate type of resolution to see the event somewhere in the enemy's rear area. That element must indeed collect the information and report it. That information must then get to the commander. Even then, the commander's deep operation will still rely upon questionable G-2 predictions, rudimentary time-distance calculations, and assumptions concerning current enemy strengths along the route of

march. Such an operation may be doomed to failure because of the very tenuous string of assumptions which make up its foundation. Knowing the difficulty in planning such an operation, there is serious question that, when lives are at stake, commanders will be willing to base its success upon such a complex and doubtful process. Certainly the G-2 would be forced to focus all of his intelligence collection capability that can be focused on the probable enemy course of action, in order to increase the chance of success. With relatively few collection systems to begin with, this effort will tend to drain most of them from other functions, such as developing the overall enemy order of battle, surveillance of less likely (but perhaps more dangerous) enemy avenues, and protection of the rear. For this reason, commanders' use of intelligence collection assets in this focused manner may result in serious security dangers everywhere else. If the enemy should choose to adopt the recommended course of action, then the success will be great. However, if the enemy chooses to adopt any other, then the resulting surprise could be catastrophic. This fact adds to the significance of the G-2's estimate, which, as we've stated already, can hardly be called reliable.

Under the Descriptive System of intelligence, the collection management process is simpler. According to Townsend, there are only two essential elements of information, and they are enemy location and strength.[32] He states that if we know enemy locations and strengths, then the G-2 and the commander can determine the enemy's capabilities and the commander can assess his risks. The key problem for the G-2 in Directing intelligence becomes one of

locating enemy units, determining their strength, and keeping this information factually updated. He does not rely upon indicators or clues as to enemy activity. He merely uses their appearance to refocus intelligence collection assets.

The commander, aware of the knowns and the unknowns in this situation, is better able to personally affect the collection effort. Since there are no assumed unit locations on the SITMAP, the commander can perceive his most critical uncertainties and can direct the G-2 to prioritize against those particular uncertainties. He has a clearer picture of what is not known, and he is therefore able to more clearly determine what he needs. Furthermore, the G-2, having no authority to develop an estimate with padded information, can demonstrate to his commander the need for additional intelligence support based upon his available intelligence holdings. The commander can more easily determine whether he can afford to use his cavalry in a security role, or whether he must use it in a reconnaissance role, because he will know precisely how much information is available.

There is room here for error as well. The most obvious fault in the Descriptive System is the need for fact or confirmed intelligence, because fact is in itself a judgment. To separate fact from fiction, the G-2 carefully evaluates all reports, determining the reliability of the source and the validity of the information using the classical two digit code which is generally ignored today. He then retasks other collection assets against the same enemy units in order to obtain confirmatory information from more than one source. Information which has not been confirmed by

at least two sources is kept under suspicion, and is viewed as
merely an assumption. Therefore, the G-2's mission, while simpler
than that under the Intentions System, may actually be more
difficult. The G-2 cannot rely upon assumption. He must work hard
at knowing the situation, and yet be strong enough to say "I don't
know, sir". He must continually task and retask his collection
assets against specific enemy units to ascertain their locations
and strengths and to confirm that information. The process remains
susceptible to enemy deception, since even confirmatory
intelligence collectors, like aerial photography, POW's, and long
range patrols, can be deceived. However, the liklihood of
deception is much less than under the Intentions and Capabilities
Systems, which draw conclusions from the presence of indicators
alone.

The Descriptive System does not obviate the use of IPB
techniques in its Directing and Processing functions. However, it
requires that the IPB models graphically depict <u>all</u> enemy courses
of action which would cause the commander to alter his plan. The
models must therefore be either less detailed, or more numerous,
in order to cover all significant possibilities. Under the
Descriptive System, modeling can be completed *after the decision*,
and be used by the commander to highlight threats to his plan.
These modeling techniques would permit the G-2 to envision enemy
vulnerabilities to our collection and to focus on those. However,
they would not permit the G-2 to draw an Estimate or the
conclusions of an estimate for command decision making purposes.
They would also be especially valuable in long range planning, but

the Descriptive System requires that all planning assumptions made in such a modeling effort remain visible.

The last step of the Intelligence Cycle is Collection, which is driven by the intelligence requirements provided in the Directing process. The style of collection relates directly to the intelligence system being employed. An intelligence system which relies heavily upon factual information, such as the Descriptive or even the Capabilities System, demands validity from its collection apparatus, and therefore stresses collection techniques which are confirmatory, or relatively reliable, in nature. In World War II, tactical units uniformly agreed that confirmatory collectors, such as interrogation of prisoners of war and exploitation of captured enemy documents, provided the most valuable and greatest quantity of usable intelligence. [33] Next was Aerial Photography. Further down in terms of value to units at Army Group and below was signals intelligence. The Ridgeway Board specifically addressed this fact, as did several other evaluations at the end of the war.[34]

Confirmatory collectors do not, however, appear to serve the needs of predictive intelligence. They are generally not timely enough to assist the commander who is relying upon predictions to plan his operation, and indications to confirm it. Signals intelligence tends to be his collector of choice under the Intentions System, because it provides immediate reports concerning ongoing events on the battlefield, and because the best signals intelligence is also able to listen in on the text of the enemy's communications. The greatest weakness of signals

intelligence is that it is perhaps the most easily deceived of all
intelligence collectors.

Recognizing the inherent unreliability of our predictions, as
well as the succeptibility of our non-confirmatory collection
systems to deception, intelligence force developers are attempting
to introduce statistical techniques to enhance the overall
reliability of intelligence. We can see the results of this
emphasis on statistical sampling in the Army's choice of new
intelligence equipment. Much of this equipment collects and
transmits great volumes of _data_ concerning the battlefield. Most
of the individual bits of data are superficial, or external, in
that they provide little information when considered in isolation.
For example, SLAR, which produces a high volume of moving target
indicators, can tell very little about any one of those dots on
the battlefield, except that it is moving faster than 2.5 miles
per hour in a given direction. No further identification is really
possible. Automated FM direction finding, such as that produced by
the Trailblazer System, can provide relatively large numbers of
fairly accurate emitter locations. It cannot actually read most of
the messages which it intercepts because of its limited number of
intelligence personnel on board. Its range or accuracy allow it to
look only 10-15 kilometers forward in areas where it has
sufficient line of sight. It cannot locate emitters with
sufficient accuracy to call for artillery. However, it can place a
great number of data points on a blank map. Automated ELINT
Systems, even the highly touted airborne systems, are primarily
geared to locate emitters on the battlefield. In order to piece

together a picture from this unsophisticated data, the intelligence system must rely on high speed, dependable communications, automated intelligence processing, and pattern analysis. The collection and production efforts depend upon the gathering of a statistically significant number of data points, to insure that the enemy cannot deceive our intelligence process. Thus, by collecting large amounts of data and processing that data quickly, we hope to avoid prediction failures of the past by recognizing our prediction failures early.

However, each of these systems has its inherent weaknesses which can only be somewhat supplanted by others. Few of these collectors can peer inside the data point and capitalize upon the great wealth of information therein. Confirmatory collectors, such as Counterintelligence and interrogation assets have been reduced significantly in favor of high speed SIGINT systems. Our ability to interpret Aerial Photography, always a highly regarded technique, was removed from the division level by the loss of imagery interpreters from the G-2 section. Divisions can no longer interpret photos themselves, but must now rely upon interpreted imagery reports from higher levels. Other valuable World War II intelligence collectors have likewise been reduced. Document exploitation units still do not exist at Division level. Military Intelligence Interpreters, which were invaluable intelligence collectors in World War II, have been purged from the branch. The human element is leaving the intelligence system, and is being replaced by high speed samplers of intelligence data. Will the sampling technique prevent enemy deception? While we cannot answer

that question, we can say that the decreasing number of human
resources, and the limited interface between the human being and
the intelligence collector, may result in a more brittle and
inflexible system, one which orients on confirming its own
preconceived notion of the battlefield, rather than one which
objectively "seeks to learn" and can intuitively perceive
unexpected opportunities and threats. It would seem, too, that
enemy deception may become a function of confusing a machine like
the ASAS. Such a deception effort could indeed become
quantifiable, and relatively simple for the enemy.

The Descriptive System takes a different approach to
collection. It certainly makes use of samplers, but only as a
technique for early warning and for refocusing confirmatory
intelligence collectors. It emphasizes the value of aerial
photography, counterintelligence, and interrogation, and, in
SIGINT, it reemphasizes the need to intercept and interpret enemy
communications, rather than to merely locate emitters and conduct
a simple pattern analysis. In so doing, this process provides the
G-2 with more factual information, as opposed to patterns. It
provides him with a greater liklihood of staging intelligence
coups, through intercept, through imagery, or through
interrogation of just the right prisoner of war. The use of
intelligence collection in the Descriptive System is not defensive
in nature. It is not confined so much to double checking the
estimate, as collection under the Intentions System would be.
Rather, it seeks out unknown information. As a result, the
collectors are predisposed to take initiative, and may very well

succeed better in finding targets for deep operations than the Intentions and Capabilities Systems can. Furthermore, since the collection requirement is to keep track of all enemy units and locations, the collectors have to be well spread across the battlefield, and can thereby do a better job of protecting the flanks and rear than can the collectors in the Intentions System.

The focus of the entire intelligence cycle under the predictive systems is on proving or disproving a prediction. The systems therefore tend to limit freedom of thought and to distort reality to fit the prediction. The G-2 becomes a salesman and loses his objectivity. The commander, too, loses some of his intellectual freedom, and diffuses his decision making authority to his staff.

The Descriptive System, on the other hand, seeks to expand the thought process of the commander and his staff by presenting the full range of enemy options, and increasing his awareness concerning possibilities and risks inherent in the situation. Its purpose is not, however, to encourage the commander to piecemeal his resources attempting to meet all possible enemy courses of action. It permits the commander to deliberately chose which risks to accept, and it focuses decision making authority on him, promoting unity of command and unity of effort.

Which system can best support AirLand Battle? Perhaps a simpler question would be, "Which system can best enhance the command's Initiative, Agility, Depth, and Synchronization?" If Initiative "connotes a constant effort to force the enemy to conform to our operational purpose"[35], then the Descriptive System

seems to score highest. Of the three systems, it orients most upon
helping the commander to accomplish his intent, rather than upon
reacting to the enemy commander's intent. If Agility means "...the
ability of friendly forces to act faster than the enemy"[34], then
the Descriptive System again seems preferable. The system shortens
the decision cycle, and prohibits the commander and the G-2 from
giving up their intellectual or combat flexibility prematurely. If
we define Depth as the "extension of operations in space, time,
and resources"[37] then the three systems may balance. The two
predictive systems permit focusing assets at a single enemy course
of action, however the Descriptive System gives the best
all-around coverage to the depth and the width of the battlefield.
One sacrifices focus while the others sacrifice security. If we
define Synchronization as the process of developing "maximum
combat power from the resources available...",[38] then the systems
again balance. The predictive systems permit detailed, preplanned
synchronization, but their plans are based upon questionable
predictions. The Descriptive System permits less detailed
planning, but promises greater reliability in its product.

It is possible that the Descriptive System, by giving the
commander a firm, factual foundation concerning the present, could
best assist him in knowledgeably taking such risks as the AirLand
Battle will entail. This system does not at all imply an
overconservative approach to command. Rather, it offers the bold
and audacious leader a sound basis for identifying, evaluating,
and accepting his risks.

CONCLUSIONS

This study demonstrates that the predictive theory of intelligence proved itself unreliable in World War II. It also points out that the current Intentions System may be no more reliable than the process which the U.S. Army discarded in 1943. Finally, it suggests that the needs of AirLand Battle would be better served by adoption of a non predictive intelligence approach, such as the Descriptive System.

Perhaps the issue is much larger than whether to predict in tactical intelligence. The conclusions of this study may hint at a weakness in our current theory of tactical decision making. That theory could be the root of many historical difficulties, and may especially be inconsistant with the flexible and aggressive nature of AirLand Battle doctrine. We should examine that decision making theory carefully and investigate other possible approaches, such as the non predictive theory espoused in Townsend's work. There is an alternative to our cumbersome and potentially dangerous prediction process. We should adopt a theory of decision making by conscious decision, rather than by inheritance.

Even if we cannot change our decision making theory at present, we should at least abandon the Intentions System, and make the same move back to the Capabilities System which the US Army made only after several intelligence failures in World War II. We probably cannot afford the extended learning period today which cost us so dearly at that time. Considering our succeptability to deception under the current System, any move toward a continuous assessment of Soviet capabilities would

improve our early warning, and make us, as the potential

defenders, more resistant to the kind of catastrophic deceptions

of which the Soviets are capable. In readopting this system, we

should also institute measures to slow its seemingly inevitable

decay back to an Intentions oriented approach.

Clausewitz tells us that war is characterized by "a friction

which cannot, as in mechanics, be reduced to a few points". He

writes that this friction "is everywhere in contact with chance,

and brings about effects that cannot be measured, just because

they are largely due to chance."[39] Any decision-making or

intelligence system which seeks to eliminate uncertainty denies

the fact that chance, friction, and uncertainty are inherent in

war. The resources which we expend today attempting to predict the

future can better be employed in defining the present. If

prediction is essential, then let us return, for that aspect of

intelligence, to a technique which is as old as the Intentions

System itself, and peer intently once again into the entrails of a

goat.

ENDNOTES

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[24]<u>Ibid</u>. p. 3-6.

[25]U.S. War Department, "Inside G-2"(APO 442: AC of S, G-2, Sixth Army, 10 July 1945), pp. 17 through 19.

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