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Intelligence and the Problem of Strategic Surprise*

Michael I. Handel

... The textbooks agree, of course, that we should only believe reliable intelligence, and should never cease to be suspicious, but what is the use of such feeble maxims? They belong to that wisdom which for want of anything better scribblers of systems and compendia resort to when they run out of ideas. (Clausewitz, On War, Book One, Ch.6)

... the general unreliability of all information presents a special problem in war: all action takes place, so to speak, in a kind of twilight, which, like fog or moonlight, often tends to make things seem grotesque and larger than they really are. Whatever is hidden from full view in this feeble light has to be guessed at by talent, or simply left to chance. So once again for lack of objective knowledge one has to trust to talent or to luck. (Clausewitz, On War, Book Two, Ch.2)

The study of strategic surprise can be rather disappointing for those who have always assumed that a better theoretical understanding of the subject at hand would logically lead to the discovery of more effective practical means to anticipate strategic surprise and alleviate its impact. Thus far in its application to the real world, improved insight into the causes and pattern of strategic surprise has made only a negligible contribution to the search for ways to warn of a sudden attack in an accurate and timely fashion. If anything, the scrutiny of this phenomenon in recent years has chiefly served to explain why surprise is almost always unavoidable — and will continue to be so in the foreseeable future — despite all efforts to the contrary.

Strategic Surprise as a Force Multiplier

From a military point of view, the advantages to be derived from achieving strategic surprise are invaluable. A successful unanticipated attack will facilitate the destruction of a sizable portion of the enemy’s forces at a lower cost to the attacker by throwing the inherently stronger defense psychologically off balance, and hence temporarily reducing his resistance. In compen-

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sating for the weaker position of the attacker, it will act as a force multiplier that may drastically reverse the ratio of forces in the attacker’s favor. Stated in more general terms, the numerically inferior side is able to take the initiative by concentrating superior forces at the time and place of its choosing, thereby vastly improving the likelihood of achieving a decisive victory. Clearly, then, the incentive to resort to strategic surprise (as well as to deception) is particularly strong for countries that are only too cognizant of their relative vulnerability. Stronger armies, however, lack the ‘natural incentive’ to employ such methods, and must therefore make a conscious effort to exploit the full potential of strategic surprise if they are to maintain a superior position and achieve more decisive results at a minimal cost.¹

Although strategic surprise in modern military history has seldom failed in terms of its initial impact, surprising the enemy per se does not necessarily mean that the attacker has reaped the fullest possible benefits or will be assured ultimate victory. (There is, in fact, no positive correlation between the initial success of a strategic surprise and the outcome of a war.²) One reason for this is that the attacker is often so amazed by the effectiveness of his own attack that he is caught unprepared to exploit fully the opportunities it presents. For example, the Japanese did not follow up their success at Pearl Harbor with repeated attacks on US oil depots and other naval and air installations in Hawaii, nor did the Allies take advantage of the opportunities produced by their surprise landing in Anzio. The same holds true for the Egyptian and Syrian armies in their 1973 attack on Israel: rigidly adhering to the original plan of attack, they prematurely halted their advance following the first phase of the attack, when they could have continued to make considerable progress at little cost to themselves.

The benefits accruing from a strategic surprise will be maximized to the degree that plans for the attack are flexible, and more initiative is delegated to field commanders, who are also encouraged to improvise and accept risks. (The Germans very successfully exploited the surprise gained in the opening of their attack on Norway and the west in 1940, and in the earlier stages of their attack on the Soviet Union in 1941, although they failed in this respect during the Ardennes offensive in 1944. In another instance, the Israelis came close to fully exhausting the potential of their unanticipated attack on Egypt in the opening phase of the 1967 war.) Thus, accomplishment of the surprise itself is only the first phase of planning; the second must consist of detailed preparations for the best possible exploitation of the projected surprise attack; frequently, this objective can be produced through a maxi–max (high risk–high gain) strategy as practiced by the Germans in Norway, the Japanese in Singapore, MacArthur in Inchon, and the Israelis in 1967. While the first phase, as we shall see below, rarely fails, the second one poses serious, sometimes insurmountable problems. Yet the whole raison d’être of launching a strategic surprise will collapse if the first stage cannot be followed up by the second.
Surprise in Historical Perspective

Although surprise has always been possible on the tactical level, its feasibility on the strategic level is a relatively new historical phenomenon of the twentieth century. Before the technological-industrial revolution, the rapid movement of large troop formations over long distances in a short period of time was virtually impossible. The slow pace of mobilization, not to mention that of troop concentration and movement, provided ample clues as to an adversary’s offensive intent. Furthermore, such evidence could be gathered in time to countermobilize and make all preparations necessary to intercept the expected attack. This was recognized by Clausewitz, who believed that strategic surprise was of greater theoretical interest than practical value.

Basically, surprise is a tactical device, simply because in tactics, time and space are limited in scale. Therefore in strategy, surprise becomes more feasible the closer it occurs to the tactical realm, and more difficult, the more it approaches the higher levels of policy. While the wish to achieve surprise is common and, indeed, indispensable, and while it is true that it will never be completely ineffective, it is equally true that by its very nature surprise can rarely be outstandingly successful. It would be a mistake, therefore, to regard surprise as a key element of success in war. The principle is highly attractive in theory, but in practice it is often held up by the friction of the whole machine. Preparations for war usually take months. Concentrating troops at their main assembly points generally requires the installation of supply dumps and depots, as well as considerable troop movements, whose purpose can be assessed soon enough. It is very rare therefore that one state surprises another, either by an attack or by preparations for war. Indeed, Clausewitz was convinced that, in his time, strategic surprise was not powerful enough to overcome the inherent advantages of the defense.

The immediate object of an attack is victory. Only by means of his superior strength can the attacker make up for all the advantages that accrue to the defender by virtue of his position, and possibly by the modest advantage that this army derives from the knowledge that it is on the attacking, the advancing side. Usually this latter is much overrated: it is short-lived and will not stand the test of serious trouble. Naturally we assume that the defender will act as sensibly and correctly as the attacker. We say this in order to exclude certain vague notions about sudden assaults and surprise attacks, which are commonly thought of as bountiful sources of victory. They will only be that under exceptional circumstances.

In the past, surprise was thus confined to the tactical and grand tactical levels. With the advent of technology came the ability to achieve strategic surprise, as well as a change in the modes and aims of surprise, which, in its strategic form, is a much more complex phenomenon. Surprise could now be achieved simultaneously on several levels: in timing, the place of attack,
rapidity of movement, the use of new technologies delivery and weapons systems, the frequent appearance of new doctrines and innovative tactics to match the new technologies, as well as in the choice of the political-military goals for war itself.  

The beginning of the railroad era, shortly after Clausewitz's death, touched off the revolution in mobility in warfare. Half a century later, the combustion engine further expanded the flexibility of movement and maneuver while obviating the necessity of dependence on railroad tracks for rapid mobility. The introduction of tracked vehicles and tanks by the end of the First World War improved the possibility of movement over difficult terrain, thus bringing the revolution of movement on land to its logical conclusion. Such trends conducive to strategic surprise were even further boosted by the development of air power, which added a third dimension of movement across all natural barriers, in all directions, and in very short periods of time. Air power brought to near perfection the possibility of success in the use of strategic surprise. Readying air power for the initial strike did not require an unusual concentration of forces, since it was based on the use of forces in being. Furthermore, the transition from peace to war was instantaneous, while the firepower that could be concentrated and unleashed was tremendous. Air power was particularly suitable for the attack of targets such as headquarters, communications centers, airfields, fuel depots, bridges, roads and other choke points vital for a counter-mobilization and the effective management of the defense against surprise attack. Moreover, it surpassed all other types of power in the ability to effect deep penetration bombardments and airborne attacks and/or provide support for deep penetration operations in land warfare.

In general, the existence of a variety of means of transportation made possible an accelerated pace in the initial mobilization and concentration of troops for the attack. This, in turn, improved the likelihood of achieving a breakthrough to be followed up by deep penetration into the adversary's territory. In addition, supplies could now be transported to the attacking forces more rapidly and over longer distances, thereby widening the range of options for maneuvering on the battlefield. When employed in conjunction with the enormously increased capacity of conventional firepower, the efficient, rapid means of transportation multiplied the power with which one could attack at a selected point and catch one's adversary completely off guard. Time and space, to use Clausewitz's apt phrase, had now been compressed.

In the twentieth century, technological surprise has become one of the most formidable forms of surprise in war. The unexpected appearance of new weapons in massive quantities, and/or their use in an innovative way, can be of decisive importance. Among some of the better known technological surprises, the first massive use of gases and tanks in the First World War and the appearance of and, even more so, the methods of use of the radar and radar counter-measures in the Second World War, are outstanding. The use of gliders by the Germans during their attack in the west in 1940 on the Belgian fort of Eban-Emael, the performance of the Japanese Zero
and the Russian T-34, the British code-breaking effort and the strategic and tactical use of Ultra and the American atomic bomb are also among the best known surprises of wartime.

Technological surprises can be divided into two categories. The first involves the secret development of 'one' large system which is not deployed on the battlefield itself, such as Ultra and the atomic bomb. This type of technological surprise is extremely difficult to discover or anticipate. The second category involves the massive battlefield deployment of a new weapon system, such as the Zero or the T-34, which takes considerable time and is difficult to conceal. Yet very much like all other types of strategic surprise and for the very same reasons discussed below, technological surprise never fails. Given the rate of technological change since the end of the Second World War and evidence from recent wars, there is little doubt that technological surprise and deception will play a much more critical role in future wars.

As technological developments made unprecedented contributions to the feasibility of strategic surprise, the warning time available to the intended victim decreased dramatically. During the opening phases of the war at the very least, it significantly enhanced the power of the offense over the defense. The possibility that an unanticipated attack could quickly determine the outcome of an entire war thus became a very serious threat to the survival of states, especially in an ideologically competitive political environment.

In this manner, then, advanced military technology unintentionally opened up a highly destabilizing pandora’s box. The fact that any country could clandestinely mobilize its armed forces and/or gain a tremendous advantage by simply starting to mobilize its forces first, created a situation in which the reciprocal fear of surprise attack could, under crisis conditions, trigger automatic mobilization responses, loss of control, and preemptive attacks (i.e., become a self-fulfilling prophecy). Having produced optimal conditions for strategic surprise, technology emerged as one of the principal destabilizing factors in the international system of the twentieth century.

This trend reached its acme with the invention of modern nuclear weapons and ICBMs, whose staggering concentrated firepower, capable of being activated in minutes, meant that a strategic surprise could be both the beginning and the end of a war. That which Clausewitz considered to be a strictly theoretical possibility – the idea that a war might be decided by ‘a single short blow’ – has become part of reality. Technological progress in the last hundred years or so has reduced the time required for concentrating troops or launching weapons for a strategic surprise from months to weeks, to days, and ultimately to hours or even minutes (see Figure 1).

A significant by-product of the military-technological revolution was the tremendous increase in the importance and number of functions assigned to military intelligence. The connection between the rise of technology and that of military intelligence is a subject that has received very little attention from military historians.

In times of little technological progress or change, intelligence and up-to-
FIGURE 1
STRATEGIC SURPRISE IN HISTORICAL PERSPECTIVE:
THE DECLINE OF WARNING TIME

Notes:
A. Pre-industrial age. Slow mobility, limited fire power. Chances of a successful strategic surprise very low. (1870)
B. Railway age. Increased mobility, mobilization. Slow increases in fire power. Chances of a successful strategic surprise low but possible. (1870-1916)
C. Combustion engines, tracked vehicles and tanks, rise of air power and fire power. Mechanized warfare blitzkrieg. Chances of strategic surprise high. (1916-1939)
D. Further improvement in mobility and fire power. Chances of strategic surprise high – but also improvements to intelligence. (1939 to present)
E. Development of nuclear weapons and later ICBM’s and SLBM’s par excellence the weapons of strategic surprise. War can be decided – theoretically and practically – in minutes. (1945 to present)
F. Improvements in conventional mobility and fire power. Increased importance of air power. High chances of success for strategic surprise – but slowed increase given the technical developments of reconnaissance (air photography, satellites, electronic intelligence). Potential for surprise is somewhat leveled off by reconnaissance and familiarity with tactics of blitzkrieg. Yet, despite all the technological improvements that may help the defense, the basic problems of anticipating an attack are perceptual and psychological and remain without a satisfactory solution.

date information were not of paramount importance, because the behavior and strength of one’s adversary did not change very frequently. The shape of each war differed only marginally from that of earlier wars. This is not the case in a world of rapid technological change, where each new weapon and the continuously changing rates of military industrial production may give the innovator a critical unilateral advantage almost overnight. For the first time in history, intelligence itself has become a major defensive weapon. Furthermore, most of the technological innovations and preparations for
war continue in peacetime, indicating that intelligence work has become as important in peacetime as it is in war.

Although military technology has revolutionized almost every conceivable aspect of military performance, the one area in which it has, ironically enough, made little progress is that of anticipating surprise attack. The warning gap between the attacker and defender has remained as wide as in the past and still favors the offense over the defense. This will continue to be so, mainly because intelligence work, despite its access to electronic monitoring equipment, high-powered computers, and satellites, to name a few, is still based upon the human factor. As it is labor-intensive, intelligence work must reflect human nature, not technological excellence. The quality of results achieved in the world of intelligence and strategic warning in particular depends upon finding solutions to human problems which sometimes defy technological (or for that matter, any other) solutions. Among these are problems of: human psychology and politics; wishful thinking; ethnocentric biases; perception and misperception of reality; conflicting interests; political competition over scarce resources; organizational biases. As long as men interact with machines in the decision-making process, the quality of the decisions made will be most heavily influenced by the human factor, the complexities of which can be explained but not done away with.

In the past, it has often (either explicitly or implicitly) been assumed that intelligence work can be pursued by professional, detached experts working within an objective environment, and that they will be able to present the truth, as best they can determine it, to the policymakers. The policymakers in this scenario will of course recognize the quality and relevance of the data provided them, and will use this information in the best interest of their country (as they identify it). This 'purely rational decision-making model' and belief in the viability of a 'strictly professional intelligence process' is nothing but an idealized normative fiction. And yet many scholars and even some experienced intelligence experts continue to believe in the possibility of creating -- through the 'right' reform -- the perfect intelligence community.

Like Clausewitz's war in practice, the real world of intelligence is rife with political friction and contradictions, an environment in which uncertainty is the only certain thing.

Intelligence work can be divided into three distinct levels: acquisition (the collection of information); analysis (its evaluation); and acceptance (the readiness of politicians to make use of intelligence in the formulation of their policies). As suggested earlier, past failures in avoiding surprise cannot be blamed on a dearth of information and warning signals. Consequently, one must look to the levels of analysis and acceptance for an answer.

The major problems stemming from these two levels can be discussed under three principal categories, two of which are primarily related to the analytical process. These are, first, the methodological dilemmas inherent in intelligence work and problems of perception and second, explanations
corresponding mainly to the level of acceptance. The third category includes organizational and bureaucratic problems.

A. Methodological Dilemmas and Problems of Perception

1. SIGNALS AND NOISE

Basically, information collected by the various intelligence acquisition modes can be divided into two types: correct and incorrect, or as they are called in intelligence jargon, signals and noises. Although this dichotomous method of classification is of great theoretical value, in reality it is usually impossible to distinguish between signals and noises. Instead of falling neatly into one of the two categories, much of the information is a combination of both elements and therefore cannot be considered either completely reliable or totally unreliable. In attempting to determine the reliability of any single piece of information, analysts need to corroborate it with many other bits of data. The analysis and evaluation process is further hampered by the often contradictory nature of the information, which defies simple quantitative analysis. (This statement is not meant to suggest that a sophisticated quantitative analysis has a better substitute.) Much of the important data acquired do not lend themselves to a quantitative presentation because the criteria used to determine their selection, categorization and corroboration are ultimately determined by human beings, who cannot detach themselves from their ethnocentric biases, preconceived ideas and concepts, and wishful thinking. Much of the criticism directed at the use of quantitative methods in the social sciences, particularly in international relations, is even more applicable to intelligence work. In many facets of intelligence work, there is often no substitute for the experience and intuition of the expert. Intelligence must, as a result, generally be described as an art despite the many scientific disciplines that make critical contributions to its success.

It has been observed that 'if surprise is the most important “key to victory”, then stratagem is the key to surprise.’ The ever present possibility of deception further complicates the already difficult task of the intelligence analyst. Deception can be defined as the deliberate and subtle dissemination of misleading information to an intelligence service by its adversaries. Since the deceiver intends to present noise as highly trustworthy information, most successful uses of stratagem are based on the supply of largely accurate and verifiable data to the adversary. Having worked hard to obtain this information, the adversary is psychologically predisposed to believe it. In view of the aforementioned danger, the intelligence analyst regards most information as suspicious until proven otherwise. This is especially true under two circumstances: (a) when the intended victim of deception frequently makes use of it himself, as he will be more sensitive to its possible use by an adversary; (b) any intelligence organization that has been duped once tends to become overcautious. The latter situation can be summarized by this paradox: The more alert one is to deception, the more likely one is to become its victim. And the better the information appears to be – the more
readily it fits into a neat pattern – the greater must be the caution of the analyst. For example, Belgian intelligence obtained German plans for the invasion of the west when a German aircraft carrying two staff officers made a forced landing in Belgium on 10 January 1940. Upon receiving the information, the British and French would exclude the possibility that it had been planted for their benefit. The danger here is that the better the information is, particularly when based on one source, the less credible it may seem to be.

Deception, and uncertainty in general, create an environment in which almost all information, at least in the short run, is accompanied by a question mark. This gives rise to yet another paradox.

‘As a result of the great difficulties involved in differentiating between “signals” and noise in strategic warning, both valid and invalid information must be treated on a similar basis. In effect, all that exists is noise, not signals.’

Attempts to separate the noise from the signals are aggravated by the fact that the collection of additional information also contributes more noise to the system, and the higher the amount of data collected, the more difficult it becomes to filter, organize and process them in time to be of use.

The collection of information is of course only a necessary but not a sufficient condition for the success of an intelligence organization. A balance must be struck between the collection effort and the analytical process. If an intelligence organization operates an excellent acquisition and collection mechanism but lacks enough qualified experts to process the information in time, its excellence in collection may come to naught insofar as warning of a strategic surprise attack is concerned. The emphasis on acquisition in the United States and the USSR has resulted in American overreliance on technological intelligence and, in the case of both countries, led to the collection of so much data that their analytical capacities have no doubt been seriously taxed.

2. UNCERTAINTY AND THE TIME FACTOR

From the preceding discussion, it is clear that the analytical process of distinguishing between signals and noises requires time. Normally, a certain amount of time elapses (A–B on Figure 2) before the intelligence organization of the ‘victim’ gains some inkling of the attacker’s plans. The lead time of the would-be attacker (A–B) shrinks in direct proportion to the degree of excellence of the prospective victim’s intelligence service. By the time the defender seriously begins to consider the possibility of an attack (at point B), the attacker is well ahead of him in his preparations for war. (Point BB represents the attacker’s lead time.) But even then, the defender-to-be is not yet convinced that he will be attacked; therefore, despite the initial warning, he does not fully mobilize (point C). While the attacker continues his preparations, which become increasingly difficult to conceal from the defender’s intelligence, the ‘victim’ may gradually become persuaded of the gravity of the threat and begin to mobilize his own forces (point D). Meanwhile, the attacker has already completed his preparations and launches his
FIGURE 2
THE NORMAL WARNING AND PREPARATION GAP BETWEEN THE ATTACKER AND DEFENDER (THIS CHART EMPIRICALLY REFLECTS MOST CASES OF STRATEGIC SURPRISE ATTACKS)

Notes:
A. Attacker starts preparations for war.
B. Defender issues initial warning, but is uncertain of the real probability of war.
C. Due to uncertainty the initial phase of preparation proceeds relatively slowly.
D. As the probability of war increases and becomes more certain the defender accelerates preparations.
E. War breaks out (e.g. surprise attack). Defender’s preparations incomplete and lag behind the attacker.
F. The readiness gap favoring the attacker.
G. The degree of mobilization completed by the defenders at the time of attack (E).
H. At this point the defender may have reached his highest level of preparations. Line A—>B represents the attacker’s lead time; line B—>E represents the defender’s actual warning time; line B—>H represents the time the defender needs to complete his preparations. The greater is B—>H minus B—>E the more intense is the impact of the surprise attack.

attack (point E). Represented by gap F, the time lag between the preparations of the two adversaries depends upon the warning received by the defender and his speed of mobilization. While the defender’s actual warning time was B—E, he might require more time (B—H) to complete his mobilization. (G represents the forces the defender managed to mobilize before the attack took place.) This sequence of events is typical of a strategic surprise that is not ‘out of the blue’. It offers some explanation as to why surprise is not absolute, since the defender normally manages to mobilize at least some of his troops. In many instances, the defender’s preparations have been underway for a matter of hours (B—E), while the time required for full mobilization (B—H) can be measured in days or even weeks. The ratio of the
defender's actual mobilization (G) to the readiness gap F (or the attacker's degree of preparation for war) is a good conceptual indicator of the intensity and effectiveness of the ensuing surprise attack.

Two possible exceptions to this otherwise typical sequence of events should be mentioned. In the first situation, the defender, having acquired definitive, fully credible information concerning an imminent attack, may therefore decide to launch a preemptive attack even before his own forces have been fully mobilized. He may thus seize the opportunity to begin the war on his terms by immediately using the most flexible and readily available forces at his disposal (e.g., the most suitable would normally be the air force) to attack although his own actual preparations are less than 50 per cent completed. This, for example, would have been the case in the Yom Kippur War of 1973, when the Israelis acquired incontrovertible information warning of an impending Egyptian-Syrian attack. Immediately placed on alert, the Israeli Air Force was instructed to make preparations for a preemptive strike on Arab troop concentrations. The attack was cancelled at the last moment, however, because of political considerations. Under such circumstances, the defender calculates that making the first move will allow him to cancel out, if not surpass, the attacker's advantage.

The second exception occurs in prolonged crisis situations when one side is the first to mobilize fully but then decides to delay his attack. The opponent may then catch up and perhaps reach the point where he can launch his attack first. This type of scenario occurred before the outbreak of the First World War, and again when Egypt mobilized first in May 1967 but allowed the Israelis eventually to exceed Egypt's own preparations and launch a preemptive surprise attack of their own.

3. INTENTIONS AND CAPABILITIES

All information gathered by intelligence concerns either the adversary's intentions or his capabilities. Although this sounds simple enough, the actual sorting, evaluation, and corroboration of the information is an extremely intricate and time-consuming process which involves many interrelated steps. An error of judgment in one phase may set off a chain reaction of other mistakes, causing potentially serious analytical distortions.

Perhaps the most fundamental problem concerns the difference in the collection and analysis of the two types of information. Needless to say, it is far simpler to obtain information about capabilities than about intentions. Capabilities can be material or non-material. Material capabilities, that is, weapons, their performance specifications, and quantities are not easy to conceal. Non-material capabilities such as the quality of organization, morale, and military doctrine are more difficult to evaluate in a precise way, although considerable knowledge about them can be obtained. A pitfall to be avoided at all costs is concentrating on the measurable and quantifiable while neglecting the less precise, non-material ones.

Political and military intentions, on the other hand, are much simpler to conceal; only a handful of leaders, and at times a single leader (e.g., Hitler,
Stalin, Sadat), will shape the strategy of a state. Intentions can be changed at the last minute, and defy evaluation in the absence of direct access to the adversary's political-military elite. Yet even the most secretive leaders can provide intelligence analysts with clues to their intentions in their earlier memoirs, speeches, briefings in closed or open circles, and the like. In addition, a better understanding of the adversary's intentions can be developed through the careful corroboration of all evidence with his capabilities (see Figure 3). In the long run, if a leader harbors offensive intentions, he will have to invest in and expand his nation's capabilities (arrow A). This would range from heavy investments in military hardware to a preference for long range offensive weapons over short-range defensive weapons. Limited capabilities may, however, force leaders to choose a defensive strategy in the short run. For example, Hitler needed to build up Germany's military strength before actively pursuing a policy of breaking away from the Versailles Treaty, reoccupying the Rhineland, or annexing Austria or the Sudetenland. In the absence of such strength, Hitler had to conceal his intentions behind the rhetoric of his peace offensives. The process is further complicated by the fact that the adversary may claim that he merely needs to have capabilities comparable to one's own (arrow C). Thus, Hitler demanded equality with, or disarmament for, everyone else, even as he was announcing German plans for conscription and rearmament. At other times, the adversary may augment his capabilities in response to his perception of the hostile intentions of other nations (arrow D). Such actions and reactions are intrinsic to every arms race. Furthermore, an adversary may
assert that he is gearing his intentions to one's own (arrow E). And actual or perceived changes in one's own capabilities as evaluated by the adversary may trigger a change in his intentions out of fear and suspicion (arrow F). This can heighten antagonism and, in extreme cases, ignite a preemptive war. The description of the evaluation process thus far indicates that one must not only have a thorough grasp of the opponent's intentions and capabilities as such, but also an understanding of how he reacts to and perceives the observer's own intentions and capabilities. A similar mirror image process occurs on the observer's side (arrows a,b,c,d,e,f). To complicate matters, there is no direct correlation between capabilities and intentions; that is, a country with weaker capabilities may nevertheless decide to go to war. There may be a gap or time lag between the two (e.g., a leader might have aggressive intentions without adequate capabilities, or vice-versa). Finally, the evaluation process as outlined above requires exacting coordination and a lengthy period of time for the analysis.

Although capabilities and intentions should undoubtedly be subject to equally careful collection and analytical efforts, it seems more prudent to emphasize the study of intentions for the following reasons.

(A) An adversary can still decide to attack even though his capabilities are relatively weak (1) if he miscalculates the strength of the intended victim (as did the Germans in their attack on the Soviet Union in 1941, or the Arabs in their underestimation of Israeli capabilities in 1967); (2) if he is more interested in applying political pressure or making political gains even at the cost of a military defeat; (3) if he gambles that his surprise attack will have a force multiplier effect sufficient to compensate for his inferior capabilities.

(B) War and surprise attack are determined not by the existence of capabilities per se, but by the political intention to use them. The mere possession of superior, equal, or inferior strength is therefore less important. A corollary of this is that, while the adversary's intentions can be influenced at any point (i.e., he can be deterred from taking action), it is impossible to have comparable impact on capabilities immediately before the outbreak of war. Since it is, of course, much easier to obtain information on capabilities than intentions, the temptation to concentrate on that which is simpler to identify or measure must be consciously resisted.

4. THE TRICKY BUSINESS OF ESTIMATING RISKS

Boldness in war ... has its own prerogatives. It must be granted a certain power over and above successful calculations involving space, time, and magnitude of forces, for wherever it is superior, it will take advantage of its opponent's weakness. In other words, it is a genuinely creative force.

Procedural, analytical, and methodological difficulties constitute only a small fraction of the problems involved in the intelligence estimation process. Other, no less complex problems must also be discussed briefly. The first of these concerns the element of risk assessment in the planning of
The contradictory nature of risks in military operations adds another dimension of uncertainty to all intelligence estimates. Assuming rational behavior on the part of his opponent, the intelligence analyst can supposedly predict that a very risky operation, which may entail very high costs and uncertain benefits, will not be implemented. Conversely, he might assume that an operation involving low risks and high benefits will be selected. Although correct in theory, this premise is unreliable in practice. In the first place, that which is considered a high risk in one culture may be acceptable in another. The danger, therefore, is that the analyst's cultural values will be projected upon the adversary. In the summer of 1962, after US intelligence had received numerous reports that the Soviet Union was installing offensive missiles in Cuba, the National Security Council requested a National Intelligence Estimate (NIE) on the subject. 'In early fall 1962, the NIE was completed. The estimate stated that it was highly unlikely that the Soviet Union would pursue a policy of such high risk as the placement of offensive missiles in Cuba. The estimate was made on the assumption that such a course of action would be irrational (at least from the American intelligence community's frame of reference).' Second, what sometimes appears to be great risk for an adversary may actually be less hazardous as a result of developments unknown to the intelligence analyst. Before the Yom Kippur War, Israeli intelligence overestimated the risks the Egyptians would face from the superior Israeli air force. (So, by the way, did the Egyptian planners. They anticipated some 10,000 casualties in the initial crossing of the Suez Canal. Actually, they suffered about 200 casualties. Overestimating the risks caused them to adopt, perhaps wisely, a very cautious strategic plan.) Certainly no rational Israeli planner would go to war against an enemy who maintained control of the skies. The Israelis were unaware that the Egyptians had reduced much of this threat from the air by building an extremely powerful anti-aircraft defense system consisting of anti-aircraft guns and surface-to-air missiles. The intelligence analyst may also underrate the readiness of the enemy to take risks by assuming that his adversary knows as much as he does about his own strength. In 1941, the Russians may have felt confident that the Germans would not attack because of the extent of Russian strength. But they did not know that German intelligence had, in light of the Red Army's performance in Finland, grossly underestimated Russian strength by as much as 100 divisions on the eve of Barbarossa. In this manner, excessive secrecy can undermine deterrence and lead to negatively reinforcing fallacious estimates. On such occasions, the attacker-to-be underestimates his victim's strength, while the victim, sure of his own position, is more likely to be taken by surprise.

The assessment of a specific risk is further complicated by the estimated impact of the strategic surprise itself. Although the Germans in 1941, the Japanese in 1941, and the Israelis in 1967 knew that their respective adversaries possessed greater capabilities, they calculated that a successful strategic surprise would be the force multiplier needed to redress this imbalance. This expectation thus lowered the anticipated risks for the attacker. In contrast, the defender frequently underestimates the impact
that a surprise attack could have, and is, instead, confident that his retaliatory strength and capacity to respond would not be diminished by such an occurrence (e.g., the USSR in 1941, Israel in 1973).

In many instances, the stronger defender, who is interested in perpetuating a status quo that works in his favor, does not fully comprehend the potential attacker's desperate frame of mind. On the eve of Pearl Harbor, the United States was unaware of the degree to which Japanese military and political leaders felt cornered. These leaders were cognizant of the United States' superior war potential and knew that unless the United States was ready to accept Japanese terms after the initial campaign, Japan could not win in the long run. Nevertheless, the Japanese felt they had no choice but to attack. For similar reasons, in 1967 President Nasser of Egypt did not realize how desperate the Israelis felt, while in 1973, the Israelis failed to understand how the lack of progress on the diplomatic front since 1967 caused mounting frustration in the Arab world, culminating in the decision to resort to war regardless of the military consequences.

Estimating risks requires an intimate grasp of the adversary's culture and capabilities, his political and psychological frame of mind, and above all, what he knows and feels about the defender. Such detailed knowledge of one's opponent is rarely available, and even if obtained, it is easily distorted by many perceptual biases.

Finally, the paradoxical nature of the calculus of risk should be considered. Superficially, it is rational to assume that very high risk strategies, whose apparent chances of success are low, are normally unacceptable whereas lower risks would be readily taken. In reality, such assumptions may be less than rational: an attacker can calculate that because attacking at a certain place or time would involve high costs, his adversary would rationally conclude that the probability of his choosing this strategy is extremely low. Paradoxically then, opting for a high-risk strategy might be less foolhardy than is first assumed. This was intuitively understood by many of the great captains of war and is associated with some of the most decisive strategic and tactical victories throughout history. The invading Allies' choice of Normandy as their landing beach despite its lack of harbors and greater distance from their starting point than other possible landing sites (Pas de Calais); MacArthur's 5000-to-1 gamble at Inchon; and Israel's attack on Egypt in 1967 and rescue operation in Entebbe in 1976 are but a few examples of maxi-max strategies that actually reduced the risks involved.

There is no reasonable connection between the degree of risk on the one hand and the choice of strategy on the other. The temptation to choose a high risk–high gain strategy is always present. Perhaps the only logical observation that can be made regarding this strategy, on the basis of historical evidence, is that, while it can prevail in the short run, it is bound to fail in the long run. Napoleon and Hitler are the best known practitioners of this approach.

In war ... 'The idea that something “cannot be done” is one of the main aids to surprise .... Experts tend to forget that most military problems are
soluble provided one is willing to pay the price.' But once someone is prepared to pay a high price, it may be added, his price is actually reduced. This leads to the following paradox: 'The greater the risk, the less likely it seems to be, and the less risky it actually becomes. Thus, the greater the risk, the smaller it becomes.'

5. WHY MOBILIZATION CAN BE SELF-DEFEATING

The uncertain, politically sensitive nature of intelligence work is accentuated (perhaps more than in any other type of politico-military decision) by deliberations concerning whether or not to declare an alert or mobilization. This is the most critical policy recommendation an intelligence organization will ever have to make. If correct and timely, it may save many lives and significantly increase the chances of a vulnerable state's survival; if ill-timed, it can set off an uncontrollable chain of events, and possibly lead to war through miscalculation. In the long term, such a grave mistake can also have harmful repercussions upon the ability to make correct decisions in the future.

Every mobilization involves heavy political, material and psychological costs in addition to greatly increasing the danger of war. A status-quo-oriented country (such as the US and NATO, Israel in 1967 and 1973), which does not intend to go to war by its own initiative, will therefore try to avoid mobilizing except in the most extreme circumstances; at times, such a nation can bring even more harm upon itself by taking precautionary mobilization measures which eventually do not end in war. A single alert, let alone a series of alerts or a prolonged period of high alert which is not followed by war will have a decisively negative impact on future decisions. A series of false alarms will undermine the credibility of the intelligence organization (the so-called cry wolf syndrome); and by the time subsequent decisions on similar matters have to be made, prolonged periods of mobilization and the routinization of alerts will have brought about 'alert fatigue' (i.e., condition the high command and troops to a state of alert and therefore progressively erode their readiness for action). A continual or 'permanent' state of alert can therefore be self-defeating.

The predicament of intelligence organizations is that many alarms which are deemed false in retrospect may have actually been justified. Although the cause for alarm is usually known, the defender's intelligence may find it much more difficult to produce a timely explanation (before the next crisis occurs) as to why the predicted attack failed to materialize. Three basic reasons for this can be set forth.

One. The enemy did not plan to attack in the first place. This is the outcome of an intelligence failure stemming from faulty information, an incorrect analysis, and/or a low threshold for mobilization (see ensuing discussion on worst case analysis). In view of the normal reluctance to declare alerts or to mobilize, this type of faulty estimate is actually not very common. Of much greater interest and complexity are the remaining two explanations.
Two. The enemy had decided to attack, but canceled or delayed the D-Day at the last minute for reasons such as bad weather, unsuitable political conditions, dissatisfaction with the plan of attack or the military doctrine, or a high level of alert on the defender's side. The best known example of this sequence of a planned attack, followed by a countermobilization and then the deferring of the attack, is Hitler's series of decisions to launch an offensive in the west: attacks were planned and then cancelled in November 1939 and January 1940, while the attack was finally carried out in May 1940. Before each of the planned offensives, a number of timely and, in retrospect, reliable warnings were received by British and French intelligence. Yet the Allies lost their confidence in some reliable sources of information (such as Colonel Oster of the Abwehr) because the predicted attacks did not take place. By 10 May, the day the Germans at last launched their offensive in the west, the Allies were completely surprised despite the multitude of warnings they had received but brushed aside.27

A failure in prediction does not necessarily mean that something is amiss with an intelligence service or the information it has gathered. On the contrary, a correct prediction can be based on faulty information or a flawed analysis. For example, on 25 September 1962, the US intelligence community agreed 'on balance' that the Soviet Union would not install missiles in Cuba which were capable of reaching the United States. 'The reason the intelligence community gave for its “on balance” conclusion that the Soviets would not place “offensive” missiles in Cuba was that according to its analytical framework, the Soviets were not prepared for this kind of confrontation .... In the event the Soviets got their confrontation and found a way to withdraw the missiles .... The intelligence community was wrong but for the right reasons: Khrushchev had miscalculated.' Referring to this, an American former senior intelligence officer said, '... While it is most blessed to be right, it is more blessed in our business to be wrong for the right reasons that it is to be right for the wrong reasons.' In other words, a very small number of even significant intelligence failures may not constitute proof that something is intrinsically wrong with an intelligence organization; only a higher incidence of repeated failures indicates that reform or reorganization might be required.

The rush to investigate the performance of intelligence organizations after each ‘failure’ may not only be unjustified, but also counterproductive. The absence of a direct correlation between the quality of intelligence and its actual results may be further illustrated by the fact that the more nearly ‘perfect’ the operation of an intelligence system, the greater the reliability which decision makers attribute to the information received. Therefore, an ‘imperfect’ intelligence system is the safest, since decision makers are more wary of the data distributed to them.29 The saying that ‘there is no failure like success’ comes to mind. The continual success of an intelligence organization reduces the incentive for improvement, and thus aids in the concealment of less salient weaknesses. Failure or defeat, on the other hand, are catalysts for improvement. The unquestioned reputation of British intelligence during the First World War diminished British competitiveness.
between the two world wars, causing a decline which went unnoticed for some time. Accordingly, it can be suggested that the greater the credibility of an intelligence agency over time, the less its conclusions are questioned, and the more serious the risk in the long run of overrelying on its findings. Three. Even more difficult to cope with is a situation in which the enemy prepares for an attack, and the defender reacts by mobilizing upon receiving a timely warning. The would-be attacker may then be deterred after realizing that he can no longer reap the benefits of surprise. The prospective attacker might also fear that his secrets have been betrayed, giving the adversary precise knowledge of his plans. But even after such events have occurred, the defender’s intelligence can be hard pressed to determine whether the predicted attack was deterred by his counter-mobilization (which would justify similar measures in the future), or whether there was no attack planned in the first place. This, for instance, was the dilemma faced by Israeli intelligence in the wake of a mobilization in May 1973 that was not followed by an attack. This is summarized by the paradox of the self-negating prophecy: Information on a forthcoming enemy attack triggers a counter-mobilization, which, in turn, prompts the enemy to delay or cancel his plans. It is therefore extremely difficult – even in retrospect – to know whether or not the counter-mobilization was warranted. The methodological problems discussed thus far have no perfect solutions. The intelligence expert is constantly searching for a better way to overcome the difficulties he faces. Other than acquiring more and better information in real time, this search involves three basic strategies. The first is to ‘purge’ the intelligence process (as much as possible) of human biases and perceptions, the second is a more costly approach in which the analyst takes all threats seriously and implements the necessary precautionary measures; and the third strategy, to be discussed later, calls for certain organizational reforms designed to improve the objectivity of the intelligence decision-making process by either reducing negative political influences or increasing the variety of participants and input involved in the process.

INDICATORS AND WARNINGS

The most familiar methodological device neutralizing the effect of the human element on the analytical intelligence process is the development of a detailed list of Indicators and Warnings (I & W). In theory, this is a simple and elegant solution. ‘Essentially, the purpose of the method [is] to help the warning analyst pick and choose the significant from the massive amounts of ambiguous and possibly conflicting data that would be abundantly available in crisis situations. To do this, the analyst need only ask three simple questions: is it necessary (i.e., mandatory rather than optional to prepare for an attack); is it unambiguous (i.e., a move one takes only to prepare for war rather than for other purposes as well); and can we monitor it (i.e., can we
Warning indicators might include, for example, the cancellation of all leaves; large-scale simultaneous maneuvers by several bordering countries; the intensification of, or unusual reduction in, wireless communication; the departure of foreign military advisors; distribution of live ammunition among units; mobilization of reserve units; the opening of civilian and other shelters; the clearing of minefields and certain roads; and emptying large refineries of highly flammable materials.

Naturally, even a detailed set of warning indicators does not always speak for itself. If the changes occur slowly over a long period of time (acclimatization), they may be overlooked. Experience has shown that political leaders and analysts, if their concepts exclude the possibility of an imminent war, will go out of their way to dismiss as harmless all of the warning signals (e.g., the adversary is mobilizing defensively because he fears an attack; or he is preparing for extensive maneuvers; there are other, contradictory signals; it's a game of nerves and bluffs intended to shore up his bargaining position). ‘Even the best I & W scheme can only tell you whether and to what extent a government is prepared or preparing to act. It cannot tell you why or what its intentions are ....’ Moreover, if the adversary knows which indicators a given observer considers to be warning signals, he can deliberately manipulate such indicators in order to deceive the observer. Of all methodological devices intended to aid in the avoidance of strategic surprise, paying close attention to indicators and warnings appears to be the most promising.

In addition to simpler types of warning indicators, a number of other kinds of developments merit close observation. These include situations in which the adversary and/or the observer are frozen in a hopeless and unacceptable political deadlock which may encourage the resort to war (Japan in 1941; the Arabs in 1973; Argentina over the Falkland Islands in 1982). The conclusion of a military treaty between former enemies (e.g., the Ribbentrop–Molotov agreement in 1939; Egypt and Jordan in May 1967), as well as the appearance of new leaders, unusual domestic pressures, and unexplicable anomalies in a adversary’s pattern of behavior are also developments that should not escape scrutiny.

**WORST-CASE ANALYSIS**

A less elegant and more costly strategy essentially involves lowering the threshold for taking precautionary measures in response to emerging threats. This method may prove to be more attractive to the intelligence community. As a result of continuously monitoring the actual and potential threats posed by the enemy, and because of their professional socialization, intelligence (in particular senior) analysts are a cautious and pessimistic lot. The degree of pessimism and extreme caution is exacerbated by a major intelligence failure such as the inability to anticipate a strategic surprise. This is likely to result in the adoption of a ‘worst case’ approach, which can be described as the attitude that it is most prudent to base one’s assumptions and analysis on the worst that the other nation could do; to assume, when
presented with ambiguous evidence, that a threat will be carried out, even if the weight of indicators to the contrary appears to be greater.\(^{30}\) According to Ken Booth,

the worst case is more easily definable than the probable case, and so provides a firmer basis for a policy prescription. Worst case forecasting also frees individual analysts from blame if things go wrong. This is another reason why the tendency is always to think the worst. To base a policy on a less than worst-case forecast will turn out costly if the prediction is wrong. To underplay what turns out to be a real threat may bring defeat: but to overestimate, and perhaps provoke, a potential threat into an actual one, might only increase tension. In the past, when war was a less serious business, it nearly always made sense to defer to the alarmist. In the context of a nuclear confrontation, the balance of the argument should logically change. Risks should be taken for peace rather than war . . . .\(^{37}\)

The psychology behind the worst-case analysis is obvious, as is the play-it-safe, bureaucratic attitude, and at times the political desire for increased defense budgets or fear of failure. But the worst-case approach in its crude form may exact a heavy price.

- It can be extremely expensive in terms of the cost of frequent mobilization and higher military expenditure.
- It may bring antagonistic feelings to the boiling point, and prove to be a major destabilizing factor when both opponents adopt a worst-case approach. Under such conditions, one party might mobilize prematurely, which could prompt an identical move by the other, and then result in preemption and a war that no one wanted. (Reciprocal fear of surprise attack played an important role in the loss of control over mobilization and counter-mobilization before the First World War; the almost simultaneous German and British invasions of Norway; and the 1967 Six Day War.)\(^{38}\)
- In the event that this approach does not contribute to the loss of control or escalation, it may touch off many mobilizations and alerts that do not culminate in conflict, thus encouraging susceptibility to the ‘cry wolf’ syndrome and ultimately defeating its own purpose.
- Frequent and facile resort to worst-case analysis can become an easy escape from analytical responsibility and reduce the quality of threat analysis.

Yet in spite of the social, material, and political costs of mobilization, it is advisable for more vulnerable states – those which are considerably weaker than their adversaries, lack strategic depth, or maintain only small armies – to lower somewhat their threshold for mobilization. The danger and costs entailed could be minimized by introducing a flexible, modular, multi-stage alert and mobilization system. If alerts and mobilizations occur repeatedly, care must be taken not to relax one’s vigil. When survival is at stake, fewer
risks should be taken. The high cost of false alarms is still lower than that of being caught unprepared.

* * *

PRECONCEPTIONS, ETHNOCENTRISM, AND MISPERCEPTION

I'll believe it when I see it.
I'll see it when I believe it.39

Given the urgent nature of much of intelligence work as well as the general process by which human learning takes place, all analysis must inevitably be based on preexisting concepts concerning, for example, the adversary's intentions or his capabilities and military doctrines. The concepts, belief systems, theories and images comprising the framework for the assimilation of new information can be old or new, detailed or sketchy, rigid or flexible, static or dynamic.40 If a long-held concept has served well as a basis for interpretation and prediction and is rooted to the fundamental belief systems of a country, it is likely to be less open to adaptation stemming from new evidence. Therefore, the more successful a concept has proven to be as a tool for explanation and prediction, the less its fundamental premises will be questioned. But since few areas of human or political activity remain unchanged in antagonistic situations, its very success is eventually bound to be self-negating. If, however, a concept is not founded on any deep-rooted beliefs, and if it has had limited success as a basis for explanation and prediction, then it will be easier to change.

Each of these ideal types has its strong and weak points. A rigid concept provides continuity and a solid foundation from which to take action. The danger is that its adherents tend to ignore contradictory evidence; furthermore, the concept may become obsolete, thus endangering policies and strategies which are detached from reality. Commonly-held concepts that have resulted in the failure to avoid strategic surprise range from the belief in one's own power as an effective deterrent posture, and the idea that a war will be preceded, as in the past, by a crisis or ultimatum, to the conviction that without air or sea superiority certain actions are highly unlikely. Other concepts have held that Nazis and Communists would never have enough common interests to reach an agreement (believed by the British and French before the Ribbentrop–Molotov agreement); that no Arab leader would publicly negotiate an agreement, not to mention a peace treaty, with the Israelis (a concept accepted by all intelligence services);41 and that the Soviet bloc was a monolithic state-system controlled from Moscow (a western belief during the 1950s and early 1960s).

In contrast, open-ended ideas do not provide enough basis for action or longer planning, as continuous change can bring about confusion and paralysis. For this reason, the majority of erroneous concepts tend to emanate more from the rigid than from the flexible end of the scale.42
Generally speaking, perceptual errors are the result of either projecting one's own culture, ideological beliefs, military doctrine, and expectations on the adversary (i.e., seeing him as a mirror image of oneself) or of wishful thinking, that is, molding the facts to conform to one's hopes.

Psychological, cultural, and anthropological studies of perceptual errors have arrived at similar conclusions: human perceptions are ethnocentric. They see the external world inside out, which typically involves the projection of one's own belief systems, and by definition causes the underestimation, if not denigration, of the opponent's culture; motivations; intentions; material and technological achievements; and capacity to identify with others. According to Kenneth Booth, ethnocentric biases are, to a certain extent, unavoidable because they also serve a positive function as a defense mechanism in conflictual situations; if a group were to understand its adversary's motives and problems as well as its own, it might become demoralized. Arising between different racial, religious, linguistic, economic and political groups, ethnocentric biases furnish powerful explanations for most strategic surprises. The Americans by and large believed that the Japanese (and the Vietnamese) were technologically inferior and lacking in determination in comparison to themselves; the Germans believed that the Russians or Slavs were racially inferior and from this extrapolated that they were also organizationally, technologically and motivationally inferior. In 1947-1948 and 1967, the Arabs viewed Israel as weak and demoralized only to discover the opposite; while, by 1973, the Israelis had begun to believe in their own superiority as a result of past victories. In each of these cases, subjective oversimplifications of reality led to the underestimation of the adversary's will to resist, which in turn was responsible either for a hasty decision to open or to become involved in a war, or for a war that could have been avoided had the costs and consequences been more realistically calculated.

Correction of ethnocentric biases is the obvious answer to this problem, but the various measures that can be taken to this end are complex and should not be regarded as pat solutions. The most general suggestion is 'know thine enemy'. This stresses the need to intensify one's knowledge of the adversary's language, culture, political culture, ideology, and so on. Of course, this is always easier said than done, since even in the largest, most ethnically diverse society there are few who are intimately familiar (in the Weberian sense of 'Verstehen') with other cultures; moreover, such experts are not necessarily available for intelligence work. As it is self-evident, this point need not be elaborated upon here.

More original is the suggestion calling for intelligence organizations to spend more time studying their own culture and society in depth in order better to comprehend (a) how the adversary reacts to or perceives the observer; and (b) how one's own environment can bias the perception of another society. The need to know 'thyself', according to this approach, is as essential as knowing the enemy. In view of this country's experiences, it is not surprising that this proposal should come from an Israeli former senior intelligence analyst, Zvi Lanir. After the Yom Kippur surprise attack in
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1973, many Israeli intelligence analysts concluded that one of the principal causes of their misperception was the unconscious projection of Israeli society and its contentment with the status quo on their Arab neighbors.\textsuperscript{46} This was largely based on an inflated sense of self-confidence coupled with a lack of self-criticism, all of which culminated in delusions of grandeur and wishful thinking. According to Lanir, ‘the subject matter of the basic national intelligence research – as a necessary condition for its success – will include not only the study of the adversary, but also the study of oneself as related to the adversary. The recommendation is not to study primarily the daily tactical moves – but for a deeper understanding of [one’s own country’s] trends in policy and principles shaping the policy.’\textsuperscript{47}

Although original and interesting, this proposal is, however, highly impractical for the following reasons. (a) Intelligence organizations often lack the resources necessary properly to analyze the adversary’s intentions and capabilities, let alone to study their own society. (b) Whether intentional or not, the examination of one’s own society and its politics will inevitably involve subjective political views and values, and thus contribute to the politicization of the intelligence community. Such studies are likely to alienate leaders (unless the observations made are very flattering) and therefore will become totally unacceptable from a political point of view. (c) It is unclear why it can be assumed that the perceptual distortions which lead to the misperception of other societies will suddenly disappear during the examination of one’s own society. There is no reason to suppose that greater objectivity can be attained by those who study their own country.

Perceptual analytical distortions can be formed by either individuals or organizations. The perceptual errors of an individual can at times be critical, but the mistake of a low-ranking individual is more likely to be counter-balanced and corrected by others working on the same problem at various levels within the hierarchy. On the other hand, an individual at the top of the political or military hierarchy is not subject to such corrective procedures, which means that his errors in judgment are much less likely to be rectified. Therefore, individual decisions taken in the lower echelons can be examined most profitably in a bureaucratic, organizational context, while top-echelon decisions can be understood best in a psychological setting.

B. The Politics of Intelligence

In his seminal work, \textit{The Soldier and the State},\textsuperscript{46} Professor Samuel P. Huntington develops two ideal types of interaction between the civilian government on the one hand, and the military professionals on the other. He refers to the first type of interaction, which is more normative and idealized, as ‘objective control’. ‘The essence of objective civilian control is the recognition of autonomous military professionalism.’\textsuperscript{46} In this relationship the military stands ready to carry out the wishes of any civilian group, while the civilians allow the military to perform its duties or advise the government according to its best professional judgment. Here, a sharp distinction is made between the professional world of the military and the civilian world of
politics. The two groups therefore are able to interact to their mutual
benefit, and the military recognizes its duty to obey the government, yet
each group preserves its functional independence, thereby permitting
achievement of the highest possible level of national security. The pattern of
objective civilian control is, however, virtually nonexistent in the real world
of politics and competition.

The actual relationship between the military and the civilian government
is more accurately described by Huntington's model of 'subjective control',
which involves the maximization of civilian power in relation to the military;
reduces the professional autonomy of the military; leads to civilian interfer-
ence in professional military affairs; and politicizes the armed forces by
employing the services of the military for narrow partisan interests. In the
long run, a pattern of subjective control may reduce the likelihood of having
the best possible national security.

We can consider the intelligence community either as part of the military
establishment or as a discrete professional group whose relationship to the
civilian could be considered close to one of Huntington's ideal types.

The relationship between the intelligence community and the civilian
authority also requires a continuous search for a careful balance between the
professional independence of the former and the authority of the latter. For
the civilians in authority, the temptation to exploit the intelligence community's
control over information for the furtherance of political interests may
be even greater than any desire to control the military.50

Violation of the intelligence community's professional autonomy occurs
not only for the sake of gaining access to critical information possessed by
the intelligence community, but because it is an important stepping stone in
facilitating subjective control of the military in general. Furthermore, the
position of the intelligence community is rendered even more sensitive to
outside interference by the desire of the military professionals to influence
and control it in order to promote their special interests vis-à-vis those of the
civilian authorities. The professional autonomy of the intelligence may thus
be compromised, and is constantly challenged, from these two directions.

INTELLIGENCE-LEADERSHIP RELATIONS

Intelligence is the voice of conscience to a staff. Wishful thinking is the
original sin of men of power.51

The unresolvable tension between policy-making and intelligence
rests in part on an unresolvable definitional problem. For no one
agrees on what is policy and what is intelligence.52

The correct and timely analysis of the information acquired by intelligence
organizations is only a necessary, but not sufficient, condition to guarantee
the success of the intelligence community. One of the most critical phases in
the entire cycle of intelligence work lies in convincing the military and
political leadership to make the best use of the information and analysis
supplied to them.
Much depends on whether leaders are open-minded and encourage criticism and accurate, though unpleasant, information. Leaders in a democratic system are generally more inclined to consider a wider variety of opinions than those who have always functioned within authoritarian or totalitarian political systems. In authoritarian countries, where the climb to the top is an unrelenting struggle for power, habits of cooperation and openness are usually less developed. The prevalence of a rigid influential doctrine, religious dogma, or ideology naturally restricts openness to variety, criticism, and the consideration of contradictory ideas. Leaders in totalitarian countries ordinarily have little tolerance for ideas that deviate from the 'party line', since they are seen as personal criticism – a dangerous element undermining the existing ideology. Among other reasons, this explains why the intelligence systems of the democracies, on the whole, performed better than those of the totalitarian nations during the Second World War.

What has been said up to this point does not imply that relatively open-minded people who are capable of cooperation cannot rise to the top in totalitarian systems or that authoritarian-style, narrow-minded leaders cannot emerge in democracies. Ultimately, the idiosyncrasies and personality of each leader play a decisive role. From the vantage point of intelligence organizations and their capacity to cooperate with a leader, two ideal types of leaders can be considered.

Leaders such as Hitler or Stalin could not tolerate information which contradicted their own beliefs or policies. When such structures are imposed, however, strategic intelligence is of very limited use. Hitler once told Ribbentrop that 'when he had to make great decisions, he considered himself the instrument of the providence which the Almighty had determined. He ... [added] that before big decisions, he always had a feeling of absolute certainty.' Having no habits of cooperation and orderly staff work, to put it mildly, Hitler insisted on imposing his ideas on others. Early success in the face of the opposition of senior military commanders and foreign policy experts had convinced him that his intuition was infallible. A look at the leaders and military assistants closest to Hitler – men such as Jodl and Keitel in the OKW, and Ribbentrop, Göring, and Goebbels – reveals that almost all of those with whom he had any contact were sycophants. Ribbentrop and Göring (as well as others in Hitler’s coterie) carefully ensured that he received only the reports that confirmed his beliefs and images. At no point, even after the most serious defeats, did Hitler encourage another type of reporting. Good intelligence existed but was circumspectly filtered. ‘In light of Hitler’s preconceptions and distorted images, one must question the usefulness of foreign reporting even if it had been one hundred percent correct.’ Although Hitler and possibly Stalin are extreme examples, the danger involved in distorting information to suit a leader’s policies exists in every type of government and between all leaders and their lieutenants. In Donald McLachlan’s words, ‘wishful thinking [is] that ever-lurking temptation for politicians dealing with military affairs – and for serving officers involved in politics ....’

Hitler made most of his important decisions without consulting anyone.
The members of his entourage often were as surprised as the victims of his moves were, particularly during the period of diplomatic surprises in the 1930s which, unlike his subsequent military surprises, required no material preparations. Such decisions, generally made on the spur of the moment, are very difficult to anticipate. Intelligence agencies are oftentimes called upon to issue warnings before the adversary’s leader has made up his own mind. The psychoanalytical study of leaders is beset by uncertainty and speculation. ‘... If our own predictions are based on a “rational” move it is because we know that irrationality can lead to deviant behavior in any direction and is inherently unpredictable and that irrational behavior is, in the end, the admission of failure equally for he who commits and he who predicts.’ This observation is an exaggeration: irrational or deviant behavior is not random, and in fact normally follows a regular pattern (e.g., Hitler, DeGaulle, Sadat and their frequent use of surprise or their indentification with the state and tendency to take high risks; Begin’s legalistic mind; Chamberlain’s ‘rationality’ and aversion to taking any risks). It can be difficult to make day-to-day predictions of an irrational leader’s behavior, but in time a general pattern of behavior will gradually emerge, thereby helping the observer to gauge some of the leader’s reactions and readiness to take risks, if not to make more precise forecasts.

An ‘atomistic’ style of leadership reaches more severe proportions when accompanied by dogmatic adherence to an ideology (especially if the ideology is irrational). Hitler dismissed intelligence reports on American or Soviet behavior as an overestimation of Jewish, Bolshevik-Slav, or plutocratic groups that were racially or politically inferior and therefore could not be as motivated or efficient as German Aryans. Similarly, Stalin’s adherence to Communist ideology, which viewed the world in zero-sum-game terms, led him to believe that any British or western intelligence supplied to him could not be genuine (reports concerning, for instance, a German plan to attack in 1941); Stalin refused to believe that delays in opening the second front in Europe stemmed from real difficulties and not from anti-Soviet sentiments.

Although encouraging a modicum of inter-organizational competition can be beneficial, Hitler’s proclivity for pursuing a divide-and-rule policy was counterproductive in its politicization of German intelligence. An intelligence organization desiring recognition from the Führer had to furnish him with the information that he wanted to hear. The dynamics of this competition encouraged a rapid deterioration in the quality of German intelligence and fostered mistrust between the various agencies.

In contrast, the relative openness of Roosevelt, Churchill, or Truman to intelligence reports seems to have yielded better results. From his early days at the Admiralty in the First World War, to his daily use of Enigma intercepts during the Second World War, Churchill certainly paid careful attention to intelligence reports. His work habits have been described in this somewhat idealized way:
We see Churchill following up daily on the performance of his subordinates. We see him emphasizing the importance of science and technology in the development of new weapons. We note his skills in using information acquired through the interception and decoding of German communications, and his success in keeping the knowledge of that decoding a secret. We note how effective was Churchill’s insistence on transmitting instructions in writing, on keeping orderly track of every decision and on tracing the progress of decision to action. Such habits make for efficient administration.

Yet, unlike Hitler, ‘... he displayed constant interest in the latest information about the enemy .... He made it a matter of principle that he should be supplied with such intelligence “raw” – that is not in the doctored pieces of staff assessment but as it had come to hand. Thus he felt, often with good reason, that in his central position he was exceptionally equipped for keeping himself “in the know”. All that was romantic in him, moreover, thrilled with excitement of intercepted signals, Delphic reports from the agents, the broken codes, the sense of participation. This knowledge is essential if one is to understand his decisions, and at the lower level his impatience with his commanders.’

His insatiable appetite for raw intelligence tempted Churchill too often to become his own intelligence officer – a dangerous practice which no head of state should take upon himself.

On the negative side, Churchill did not hesitate to interfere in the direction of military operations against the better professional opinion of his military advisers.

In the words of Major Sir Desmond Morton, Churchill ‘... was a politician who wanted to be a soldier’. And, while he interfered too much in military operations, he never committed Hitler’s error of assuming direct command of an army in action. Although Churchill did not always feel comfortable among colleagues with superior intellects, unlike Hitler ‘his chiefs of staff were professionals of exceptional calibre. None were puny or pusillanimous ... Pound ... Dill ... Alanbrooke, Portal and Cunningham ... They were a different team from Hitler’s entourage – the subservient lackeys, Keitel, Halder, Jodl, Zeitzler and the transient subordinates, their opinions disregarded, uncertain of their tenure, their very lives dependent on a master’s whim.

When critical issues were at stake, Churchill’s military advisors did not hesitate to argue with him. In such cases, if they were persuasive and persistent enough, their opinions prevailed (e.g., Dowding’s insistence against Churchill’s judgment that no more Hurricane fighters should be sent to France in a Cabinet meeting on 15 May 1940). ‘Churchill’s disqualifications as a warlord were manifold – disqualifications both intellectual and temperamental ... he succeeded in spite of them. Hitler’s defects of character were of fundamental significance: Churchill’s peripheral.’

In reality, Churchill’s handling of intelligence was far more complicated than is commonly realized. As an intelligence consumer Churchill stands somewhere in between the cooperative and non-cooperative type of leader.
On the one hand, he appreciated the importance of intelligence work more than any other leader during the Second World War and made an immense contribution to its development; on the other, he did not hesitate to ignore it when it did not suit his strategy and too often tended to become his own intelligence officer. Though authoritarian in his attitudes toward his subordinates and advisers, he nevertheless assembled an outstanding group of professional advisers whose counsel he continuously sought during the war. Despite the many mistakes he committed which could have been avoided by more closely heeding his intelligence advisers, his overall record as an intelligence consumer was impressive. For him, more than for any other leader in modern times, strategic intelligence was the key to victory.

Beyond the problem of a leader's psychological profile, there are other, more general political behavioral patterns that can influence his attitude toward intelligence. For example, once a leader has invested substantial energy in promoting a particular policy direction — especially when his prestige is on the line or he has acted against the advice of his aides — he will be that much more reluctant to admit defeat even when presented with contradictory evidence. Under such circumstances, the most attractive course of action may be to ignore contradictory data and insist that subordinates supply him with the ‘right’ information. The greatest danger is present at the stage in which the leader supplants serious deliberation with wishful thinking. Chamberlain and the advocates of appeasement policies long resisted the overwhelming evidence that their policies actually encouraged Hitler's aggressiveness and appetite. Leaders in democratic systems are particularly vulnerable to such wishful thinking before elections.

There is no perfect remedy for the problems discussed in this section. Whether operating within an authoritarian or democratic political system, the intelligence community normally can do very little to encourage the leader to develop a more cooperative and receptive attitude toward intelligence work. Two suggestions can be made in this context: one is that more time be devoted to the ‘education’ of leaders on this subject before they rise to power. Obviously, this would not be easy, and it is often too much to expect to change the working habits of leaders. The second suggestion is directed primarily at the intelligence community. It concerns making the operation of this organization more effective by gearing its presentation, arguments, and showmanship to the specific character of the leader. Learning how to work with a leader may be a lengthy task that raises some ethical questions and cannot always achieve the desired results.

INTELLIGENCE ADVISERS AND LEADERS

So far we have discussed the critical impact of the individual leader on the intelligence process. Each leader, however, is always influenced by his close advisers, whose interaction with him is of decisive importance. The effectiveness of this relationship will therefore also be influenced by the character of the head (or heads) of the intelligence community. Is there a positive or negative chemistry between them? Do they complement or contradict each
other in temperament, character or ambition? Can they cooperate with and respect each other? Do they share a common ideology and/or a common social or professional experience?

To answer those questions we must also know something about the intelligence adviser. Is he a man of absolute integrity to whom ambition is secondary to service? Does he put his objectivity and professional judgment above all else or is he primarily interested in maintaining the confidence or friendship of the leader as a means of gaining influence? Did he become a leader in the intelligence community because of his political connections and views, or because of his professional achievements and experience? Is he prepared to resign if his professional views are either ignored or consistently not accepted?

The number of possible combinations between the character of the leader and that of his intelligence adviser(s) is very large indeed. Some of the better-known examples include: President Kennedy and McCone; President Johnson and Rostow; Presidents Johnson and Nixon, and Helms; Churchill and Godfrey; Hitler and his advisers. Though Churchill probably found Godfrey stubborn and argumentative, his relationship with Menzies, head of the SIS, was excellent. Menzies, who assumed control of the SIS at a low point in its influence when its very survival was in question, made every effort to cultivate the best possible working relations with the Prime Minister; Churchill was provided with daily Ultra intercepts which always included some spicy titbits to be used as ‘ammunition’ in his arguments or conversations with other senior advisers. In this manner, Menzies was gradually able to inspire the Prime Minister’s confidence in SIS and consolidate its position.72

Another perhaps less well-known twosome was that of Defense Minister Dayan and head of Israeli Military Intelligence, Eli Zeira. In this case, it has been argued that since both of them had been combat commanders and were ‘heroic types’ they suffered from similar perceptual defects; the fact that they reinforced each other’s views may have been a major cause of the failure to take seriously the numerous warnings preceding the surprise attack of the Yom Kippur War.73

The above discussion leads to a number of observations.

First of all, a high degree of rapport between the leader of a state and his intelligence advisers is of the greatest importance – for without a good relationship, the effectiveness of the intelligence community will diminish considerably, regardless of how good the quality of its work is.

Second, having political finesse, tact, salesmanship and other related qualities is of critical importance for the leaders of the intelligence community. Unfortunately, however, the professional analyst, educated to prefer truth to tact and objectivity to political influence, may often lack the necessary qualities. It would therefore be difficult to find a head of intelligence who is both a first-rate intelligence expert and an intuitive politician. In fact, the qualities which a highly qualified intelligence expert must possess stand in contradistinction to those required to achieve political influence. Political qualifications, in the above-mentioned sense, are therefore a necessary if
not a sufficient condition for an intelligence adviser. In addition to his political skills, he should preferably have the professional experience necessary to understand the problems and intricacies of the intelligence profession.

Third. Experience has shown that leaders tend to choose Directors of Intelligence who share their political views, if not other common traits of character (e.g. Carter–Sorenson, Carter–Turner, Reagan–Casey, Dayan–Zeira). The danger of this natural tendency is that the intelligence adviser is less likely to challenge the views of the leader or come up with a fresh, alternative way of viewing a situation. In the end, better cooperation is achieved at the expense of the quality of intelligence estimates.

Fourth. While there is no doubt that better intelligence estimates with a wider spectrum of views will be considered if the political leader and his intelligence adviser have different or even contradictory views, it is also clear that their relationship is bound to deteriorate sooner or later. The result is that the leader will tend to ignore the intelligence estimates presented by an adviser he does not or cannot cooperate with, and the product of the specific intelligence organization he represents will be lost. Usually, the intelligence adviser will notice that he is being ignored and is making increasingly smaller (if any) contributions to the decision-making process.

This tension between the capacity for cooperation between political leaders and their intelligence advisers on the one hand – and the need to present objective if objectional estimates on the other – has no simple solution in the real world of the politics of intelligence. The ideal, of course, would be to have a secure and open-minded leader seeking the advice of an intelligence expert with political finesse, who knows his leader’s wishes and policies but who has enough courage and skill to give him the most realistic estimates possible. In the real world, the combination of a dogmatic, stubborn leader who prefers to indulge in wishful thinking and an ‘intelligence waiter’ prepared to serve up the most expedient intelligence palliative is probably more likely to occur.

Political and other biases can also be introduced into the professional intelligence community from below, as will be explained in the ensuing discussion of the organizational and bureaucratic elements underlying strategic surprise.

* * *

C. Organizational and Bureaucratic Explanations

Complex systems are simply not responsive to warnings of unimaginable or highly unlikely accidents. Because they are complex, organizational routines must be carefully followed and off-standard events reinterpreted in routine frameworks.74

Much of an intelligence organization’s professional integrity depends upon the degree to which freedom of expression and criticism are encouraged, whether the system of military and civil administration is based on
merit, whether corruption and favoritism are common, the quality of the educational system, and the history of military involvement in political matters. Of course, the control of information and the possibility of manipulating it (‘massaging information’) to promote the intelligence community’s political influence or beliefs is an ever present danger which gives rise to some serious ethical questions. (Were British intelligence analysts during the late 1930s justified in privately supplying Churchill with information he could use against the Government’s appeasement policies? Was Colonel Oster of the German Abwehr morally correct when he notified Allied intelligence of Hitler’s plans to attack Norway and the west? Should the CIA have leaked to the public some of the conclusions reached during the Vietnam War regarding its futility?) Despite the powerful temptation, intelligence analysts ought to resist direct involvement in policymaking when, for example, after a briefing, they are asked by senior politicians, ‘OK, that’s your analysis. What would you do about it?’ The temptation can be overpowering for the intelligence officer, but his reply should be ‘Sorry, sir, that’s your business,’ even though he might have a pretty clear idea of what to do. This is the point at which many a good intelligence officer has committed himself actively to one policy or another, with the result that his objectivity and judgment were severely impaired.

The purely ‘rational’ or ‘professional’ behavior of any organization is modified by many factors such as parochial views, organizational interests and survival, the need for cohesion, and esprit de corps. The neutral intelligence process, unencumbered by such complications, is a theoretical ideal which cannot be found in practice.

MILITARY PATTERNS OF THOUGHT AND INTELLIGENCE ANALYSIS

Most intelligence organizations are either part of a larger military organization or include many members with military backgrounds. This unavoidably imbues intelligence organizations with a perspective that emphasizes such elements as military motives, capabilities, hierarchy, discipline and worst-case analysis. These traits are not always the most suitable for intelligence work, which deals as much with political as with military affairs, and in which ‘freedom’ of research and expression may be more important than rank and position.

The primacy of politics in strategic affairs can, as a result of the military perspective, be ignored in a more subtle way. Clausewitz’s dictum that war must serve a political purpose is by now a cliche. Yet the extent of this logic merits further thought. Rational western political and military leaders naturally assumed that war could be a political instrument only if, as Clausewitz said, we can compel our adversary to do our will, that is, defeat him on the battlefield. In western tradition, it is usually (and often correctly) assumed that if it were impossible to win a war, starting one would be counterproductive and irrational. For the Chinese, the Vietnamese and the Arabs, for example, the Clausewitzian primacy of politics has been taken one step farther; in other words, it makes sense to resort to war even if
victory is impossible, as long as one can win politically. This crucial point was repeatedly missed by western analysts and policymakers in their experiences in Indochina, Algeria, and the Middle East. In 1973, Israeli intelligence, believing from its own experience that a military defeat was also, by definition, a political defeat and a direct threat to survival, did not understand that Egypt and Syria would even contemplate initiating a war with the full knowledge that they could not win militarily, but that they could triumph politically. Western rationality, national experience, and a military view of strategy caused Israeli intelligence to underestimate a weaker adversary's intention to resort to war. (This is another demonstration of the methodological difficulties hindering the rational assessment of risk across different cultures.)

It is therefore crucial to devote more attention to the corroboration and integration of military and political intelligence, especially at the highest levels of analysis. Focusing primarily on one or the other may give rise to serious analytical distortions, as evaluation of military situations cannot be made in a political vacuum, and vice versa. It is not desirable, then, that a preponderance of intelligence activity be controlled by the military, as was the case in Israel before 1973. This conclusion, though seemingly straightforward, has not been borne in mind by those who stand to profit from it the most. The majority of cases of strategic surprise evince a prior lack of coordination between political-diplomatic and military activities on the part of the victim, and grave errors in judgment are clearly shown to be biased in one direction. Observed military warning signals are completely dismissed or underestimated because of the absence of corresponding political-diplomatic activity. The attacker takes care to maintain a facade of routine diplomacy, lulling diplomats of the intended victim into suppressing the military warning signals through optimistic political interpretations. States planning an attack no longer present their victims with ultimatums or declarations of war, nor do they initiate hostile diplomatic campaigns. Contemporary conflicts are often begun against a quiet diplomatic-political backdrop. This leads to the paradox of the sounds of silence. A quiescent international environment can act as background noise which, by conditioning observers to a peaceful routine, actually covers preparations for war. All meaningful changes in military warning signals should trigger an intensified probe into an apparently calm diplomatic-political environment. The reverse situation can be equally volatile; this occurs when an intensive diplomatic dialogue is deadlocked or abruptly terminated, yet is not accompanied by the observation of unusual military activity (e.g., the United States before Pearl Harbor, Egypt prior to the Suez and Sinai Campaigns).

Another example of the damage that can result from the treatment of an intelligence problem as a purely military one concerns the head of Israeli military intelligence in 1973—Eli Zeira—who felt that as a military officer, he should give the government an unequivocal yes or no reply regarding the likelihood of an Arab attack. Although the probability of war may have been 45 per cent 'yes' and 55 per cent 'no', he decided to take the responsibility and give the government a definite 'no' as his answer. A commander on the
battlefield may indeed have no choice but to take clearcut action: an intelligence officer, however, must make his doubts known and let political and military leaders draw their own conclusions.⁷⁸

ORGANIZATIONAL PAROCHIALISM, COMPARTMENTALIZATION AND EXCESSIVE SECRECY

The analytical quality and objectivity of intelligence is also distorted by parochial views arising out of the specialized functions of an organization. Of course, a naval or air force intelligence agency will have a narrower focus of attention than one that covers a broader area, such as the CIA. But even less specialized intelligence agencies often find it necessary to set an order of priorities. Specialization can produce a better analysis of specific problems, but this may also hamper the formulation of a more general outlook and increases the difficulty of coordination within and between intelligence organizations. Such tradeoffs are, however, inevitable.

Before the Second World War, British naval intelligence focused on assessing German naval preparations for war. Far weaker than that of the British, the German navy was unprepared for war in 1939. From the vantage point of British naval intelligence, therefore, Germany was unlikely to launch a war because of the high risk involved. Considering Hitler's political intentions and the fact that Germany was a primarily continental power, Nazi intentions to go to war should not have been gauged by a naval estimate. '... The Admiralty remained untroubled by German activity in every other sphere - foreign policy, internal policy, the economy, the air force, and the army. Naval intelligence drew from too narrow a field of information conclusions which were too broad, if eminently rational.'⁷⁹

It is worthwhile quoting at some length Basil Collier's analysis of the failure of British intelligence to warn of the German attack in Norway, as it was brought about by similar departmental biases or preconceptions.

Each of the departments concerned had its own opinions about these questions, and inevitably these opinions coloured their attitudes to reports and predictions received from the intelligence agencies and from diplomatic sources. The Foreign Office was anxious that Britain should not imperil her relations with a friendly neutral power by putting troops ashore in Norway without at least the tacit consent of the Norwegian government. At the same time, it was not in a position to rebut the argument that Allied intervention was strategically desirable and that consequently any German move which gave the Allies good reason to intervene would be beneficial to the Allied cause. It tended, therefore, to view forecasts of imminent German intervention in Norway with scepticism because they seemed too good to be true. The War Office admitted that reports that the Germans were preparing for a seaborne expedition might have some substance, but it could trace only six divisions - about the normal peacetime strength - in the area in which troops were said to be assembling. This was the number
of divisions eventually used by the Germans in Norway, but it was less than a quarter of the number the War Office thought they would need to tackle the Norwegians and the Swedes. Moreover, Military Intelligence could not exclude the possibility that the troops were intended not for an invasion of Norway but for some other purpose, such as a series of seaborne raids on the United Kingdom. The Admiralty was troubled by the fear that German surface raiders might break into the Atlantic, as had happened at the beginning of the war. It was determined, therefore, not to commit the Home Fleet to a wild goose chase on the strength of rumours. It was all the more disposed to assign reports about German intentions towards Norway to that category because the First Lord, Winston Churchill, believed that invasion of Norway was beyond Germany's powers. The Air Ministry was in some respects less sceptical about such reports than the other service departments. Even so, it tended to interpret them in the light of its preocupations with the danger of a major air offensive against the United Kingdom.

Examination of the evidence by a body of experts not wedded to the preconceptions of any particular department could scarcely have failed to lead to the conclusion that the second and third interpretations were too far-fetched to be accepted. .... But the evidence was not examined by independent experts. The Joint Intelligence Committee was not yet an effective body. It provided intermittent contact between Directors of Intelligence or their deputies, and between them and the Foreign Office; there was little or no contact between departments at the level at which reports were scrutinized by specialists. Inevitably, interpretations put upon reports by naval, army, or air intelligence officers were influenced to some extent by opinions current in the higher echelons of the departments they served. Also, there was a good deal of fragmentation within departments. Military intelligence officers concerned with Scandinavian affairs did not receive reports about events in Germany. In the Admiralty, the section of Naval Intelligence Division concerned with Scandinavian affairs did receive such reports, but some reports from MI6 or diplomatic sources were withheld from the Operational Intelligence Centre, which dealt with movements of German shipping and other day-to-day events. In both cases, provision was made for contributions from different sections to be co-ordinated at a higher level or by a section to which the task was delegated. But these arrangements did not work very well, because the co-ordinators lacked the detailed background knowledge needed to grasp the connections between two or more apparently unrelated sets of facts. 80

Although the coordination between different intelligence organizations is crucial, it introduces a number of inevitable biases into the final intelligence product. Much depends on the number of organizations participating in the process, their character and above all their relative strength. The search for
consensus may reduce the objective quality to truth of estimates in the sense that truth becomes a vector of the relative power and influence of each of the participating organizations – rather than the best and most professional judgment. Even the process of reaching a consensus may turn into a goal itself, often leaving intelligence estimates to smother different judgments with bland compromise. Hughes has, however, suggested that:

Unfortunately the drive for... consistency has become a felt necessity.... Estimators now give it more than its due. In part the problem is a function of over-institutionalization in the intelligence community ... the more coordination, probably, the more consistency.

But inconsistency is a virtue which should by no means be avoided at all costs. Consistency, after all, is not a goal of intelligence. There is little virtue in self-consciously adhering to a particular line of interpretation simply because a prior estimate on the subject took that line. Just because it was said last time is no reason to say it again. The intelligence community is not the Supreme Court. It need not strain over precedents or labor to extend the meaning of sanctified words. On the contrary, intelligence is supposed to provide current unimpeded judgments. As a vehicle for ventilating a variety of viewpoints, the intelligence process should be highly suspicious of consensus .... The freedom to be inconsistent is a major argument bolstering the independence of the intelligence community.81

R.V. Jones has also some sharp comments on the consensus-seeking approach to intelligence work:

A single head in Intelligence is far better than a committee, however excellent the individual members of the committee may be. A committee wastes too much time in arguing, and every action it undertakes merely goes as far as common agreement and compromise will allow. Common agreement and compromise, as every commander knows, generally do not go far enough. The head of an intelligence organization is really in the position of a commander planning a perpetual attack on the security of foreign powers, and he must be allowed all the privileges of a commander.82

A byproduct of the consensus-seeking process is not only the introduction of additional biases and the slowness of the process, but also its lack of clarity as a basis for action. McLachlan suggests that had there been no need to reconcile the views of five intelligence departments, the forecasts and reports of enemy strategy and intentions would have been worded in a 'firmer' way.83

Despite the aforementioned problems and imperfections of the coordination process, it must be kept in mind that coordination is absolutely essential for the production of high-quality intelligence estimates. In those countries in which the coordination between the different intelligence organizations...
was at times weak (such as in the US before Pearl Harbor) or never successfully achieved (such as in Germany or in Italy), the results were disastrous for the production of strategic intelligence.

Better coordination might correct somewhat the parochial biases of different intelligence organizations, but there is no perfect solution to the problem. Complicated and time-consuming, the coordination process itself can spur on competition for influence as well as a search for an acceptable compromise. 84

Although each organization aspires to monopolistic control over its area of responsibility, some inter-organizational competition can be constructive. There are certainly considerable dangers in relegating all intelligence work to one agency. The need for diversity in intelligence estimates in order to provide leaders with a wider choice of interpretations is obvious, but there is also a price to be paid for competition. More organizations demand more resources, they duplicate efforts, and require coordination; like all other types of organizations, those in intelligence will fight for greater influence and larger budgets. Furthermore, the larger the number of organizations participating in the process, the longer the amount of time required for the process to take place. Under conditions of crisis or war, in which time and quick reactions are critical, the process of coordination will become sluggish and insufficiently responsive to the needs of decision makers in direct proportion to the number of participants.

The drawback of such competition is that it can encourage the politicization of the working process if the protection and expansion of parochial interests is enhanced by supplying the executive leader with the 'right' intelligence. These distortions are amplified if the executive or military leadership practices a policy of divide and rule. Since intelligence organizations do not function in a political vacuum, the biases occasioned by inter-agency competition are unavoidable; nevertheless, they should be minimized. The degree of objectivity achieved therefore depends largely upon the character of the leaders in the political, executive and military arenas, as well as upon the integrity of those responsible for the intelligence community. It is the political culture in the wider sense (e.g., freedom of expression, tolerance of different opinions, respect for professional skills, respect for the law), which makes the difference.

Finally, the need for coordination and the development of a political modus operandi between organizations also exists within each of them. It has been observed that individuals within groups feel compelled to develop a consensus, the maintenance of which may become a goal in its own right. 'Groupthink', like most of the aforementioned pathologies in organizational (and intelligence) work, can also fulfill positive functions. Individuals working together often share a similar educational and career background and common interests that need to be defended vis-à-vis other organizations. Moreover, any group that must achieve a common goal and implement a policy must also be able to arrive at an operational consensus that permits its members to work on a routine basis. No group can ever hope to implement
the ideas of each of its members at the same time. Any collective action
hence necessitates a political-social search for consensus.

The key question is, however, how was the group consensus arrived at?
Was it reached through an open discussion based on the presentation of
opposing opinions; was it enforced by a single person who discouraged
debate; or was it brought about by submission to group pressure to conform?
Agreement for its own sake will only prematurely stifle the expression of
diverse, potentially valuable, opinions. The pitfalls of groupthink as demon-
strated by Janis of course exist in the intelligence evaluation process, in
particular when under the strain of crisis conditions. Groupthink may have
been one cause for the adoption of unrealistic images and concepts by US
intelligence before Pearl Harbor and the Bay of Pigs fiasco, and during the
war in Vietnam. 85

Excessive secrecy in the handling of information poses a related problem.
Perhaps the most obvious symptom of this approach is the exaggerated
compartmentalization that exists within and among intelligence organiza-
tions as well as between the intelligence community and other military or
civilian agencies. Consequently, one organization often is not privy to the
information held by another, an arrangement which may bring about failure
to act, the duplication of efforts, or the inadvertent interference of one
agency in the operations of another. Recent examples of such costly miscal-
culations are the Bay of Pigs operation and the ill-fated attempt to rescue the
American hostages in Iran.

The overall vice of excessive secrecy may leave actors unaware of the
pressing need to coordinate actions, or even of which new issues require
coordination. Furthermore, valuable information may not be used to the
fullest possible extent. Particularly in times of crisis, information should be
passed more readily to lower and parallel echelons, for in all failures to
anticipate sudden attacks, much data were misinterpreted or improperly
corroborated with other information. In addition, information and the
exchange of opinions should flow both upward and downward in the intelli-
gence hierarchy and between it and its political counterpart, while better
coordination between tactical intelligence and its headquarters must be
ensured. 86

Donald McLachlan had observed that ‘Intelligence is indivisible. In its
wartime practice, the divisions imposed by separate services and depart-
ments broke down.’ 87 The process of breaking down these artificial barriers
may, however, take a prolonged time in the natural course of events, and
should therefore be deliberately practiced to a greater extent in peacetime.

Some degree of tension will always exist between the desire to protect
intelligence sources and the need to make the best and most profitable use of
information. There is no formula by which to calculate the potential costs
and benefits or missed opportunities in such circumstances. Almost miracu-
iously, the Allies managed to protect the secret of ‘Ultra’ from the Germans,
and in fact from the world, until the early 1970s. Yet, the decision to
attribute ‘Ultra’ information to spies or special operations in many cases
discredited the information in the eyes of some senior field commanders, who were not informed of the actual source. A wider distribution of Ultra may have improved performance on the battlefield, reducing the number of opportunities missed. Nevertheless, Ultra and the double-cross system are unique events in the history of intelligence and may confuse the issues involved. It seems that in general, though, intelligence organizations tend to err in the direction of excessive caution and under-utilization of information. This may be an innate professional bias – yet information that is not used is ineffective and has repercussions beyond the mere wasting of the collection effort.

THE (ELUSIVE) QUEST FOR EFFECTIVE ORGANIZATIONAL REFORMS

Every major intelligence failure, especially if a traumatic error involving strategic surprise, is followed by a reexamination of the organizational structure of the intelligence community (or agency), including a detailed review of the decision-making process of each organization and its relationship to others. A serious and earnest attempt is made to introduce reforms that will once and for all improve the performance of the intelligence/policy-making communities and provide better warning of the approach of the next crisis. These structural reforms are chiefly directed at developing inter- and intra-organizational mechanisms to improve the analytical objectivity of the intelligence process, as well as to reduce the negative consequences of inter-organizational politics and competition, or the negative political interference of either the political elite or that of senior military and intelligence professionals. In the final analysis, all of the newly introduced mechanisms are designed to encourage greater objectivity by increasing the variety of inputs (i.e., different and competing opinions of diverse individuals and organizations into the intelligence process).

The simplest way to attempt to achieve this goal is by increasing the number of participating organizations. As mentioned earlier, this creates new difficulties in coordination and cooperation and steps up political competition over scarce resources and for influence between the various agencies. Another approach to improvement of the decision-making process starts within each organization. The two types of reform will usually be carried out simultaneously, and generally complement each other. In each case, an attempt is made to neutralize inter- and intra-organizational political competition, 'equalize' the roles and influence of the participants by providing each the opportunity to express his views without fear of suffering any negative consequences.

Since no two (or more) organizations are ever equal – in their functions, performance, esprit de corps, or leadership – they are never equal in influence. Furthermore, the creation of new organizations does not always achieve the desired outcome, since they often lack the vital support of a power base. (After the Yom Kippur War, the Agranat Commission in Israel recommended the establishment, in fact re-introduction, of the Israeli Foreign Ministry's intelligence unit. Unable to compete with the far more
powerful position and resources of the Israeli military intelligence and the Mossad, this organization remains unimportant in the intelligence process in Israel.) On the positive side, new organizations can be provided with an extra amount of resources and powerful leadership in order to secure their productive survival.

While some of the reforms eventually succeed (e.g., the reform of the US intelligence community after the Second World War), many are difficult to put into practice and, while implemented de jure, cannot always take hold in a de facto sense. In any event, as has been observed by Richard Betts, most of these reforms involve some kind of trade-off, so none can be expected to solve completely the problem of avoiding strategic surprise.

Having warned the reader against putting too much hope in any reforms, we will proceed to discuss mechanisms designed to improve the objectivity and variety of input into the intelligence process. The first, multiple advocacy, is primarily intended to ensure each organization an equal opportunity to influence the intelligence decision-making process. The second, the Devil’s Advocate, is supposed to guarantee diversity within each agency.

Multiple Advocacy

Multiple advocacy entails the deliberate establishment of several independent intelligence agencies in order to foster increased competition and greater analytical variety, thereby affording policymakers access to a wider spectrum of views. Ideally, ‘redundancy inhibits consensus, impedes the herd instinct in the decision process, and thus reduces the likelihood of failure due to unchallenged premises or cognitive errors’. Yet multiple advocacy is more than the encouragement of free market competition. It requires strong, alert management if the competition is to have constructive direction and centralized coordination. For this system to function properly, three major conditions must be fulfilled. One, there should be an equal distribution of all types of intellectual, bureaucratic, and other assets (e.g., experts, adequate information, analytical support, equal political influence with the top executive, and equal bargaining skills). Alexander George emphasizes the need for a balanced distribution of assets and influence among the participants. ‘The mere existence within the policymaking system of actors holding different points of view will not guarantee adequate multi-sided examination of a policy issue.’ Two, it requires the active participation of the top executive in monitoring and regulating the process. Three, time is required for adequate debate and give-and-take. Other requirements include the establishment of a special custodian-manager assistant to the top executive, if his own participation in the process is limited. The assistant would be expected to balance actor resources; introduce new advisors to argue for unpopular views; search for new channels of information or avoid dependence on a single channel of information; arrange for the independent evaluation of decisional premises when necessary; monitor the process and introduce appropriate corrective action. The process can be further strengthened by introducing ‘adversary proceedings’; that is, a requirement that intelligence reports or policy recommendations
'run the gauntlet' of critical scrutiny by analysts other than those who produced them (or even by competing organizations).  

While the absence of competition and variety in intelligence is a recipe for failure, the institution of a multiple advocacy system does not guarantee success. To begin with, not every leader will possess the qualities needed for direct participation in the management of this type of system. 'Some executives find it extremely distasteful, disorienting, and enervating to be exposed directly in a face-to-face setting to the clash of opinion among their advisors . . . . Such executives prefer a depersonalized presentation of the arguments.' In other cases, the leader may lack a sense of balance or judgment, and can transform controlled competition into cut throat competition. Or, if the chief executive does not have time to manage the multiple advocacy process, his advisor may lack sufficient prestige or leverage to maintain the desired level of competition.  

The competition may also be corrupted from below, as it will always be besieged by parochial, bureaucratic interests. Actors . . . . 'may decline to raise unpromising options even if they believe in them, for fear of ending up on the "losing side" too often, thereby losing "influence" or tarnishing their reputation or expending limited bargaining resources on fruitless or costly endeavors.' In addition, 'competition within the advisory circle may occasionally get out of hand, strain the policy-making group's cohesion, and impose heavy human costs . . . . Officials may be quicker to go outside the executive branch in search of allies for their internal policy disputes. This may encourage "leaks" and create difficulties for the executive.'  

Multiple advocacy at its best can lead to the presentation of a wide variety of opinions, but it cannot contribute to identification of the better choice; '... it may simply highlight ambiguity rather than resolve it.' Variety does not prevent a leader from choosing the option or policy that he would have preferred anyway; it may merely serve as an objective facade for a subjective choice. Another possible incorrect choice by the chief executive can stem from the temptation to '... accept the middle-of-the-road view, a compromise between advocates of opposing ideas, which may be indecisive . . . . Thus, the fundamental biases of neither the intelligence community nor the political executive are resolved by this system, while variety does not necessarily produce 'high quality policymaking. The content and quality of policy decisions is determined by many other variables — . . . . the ideological values and cognitive beliefs of policymakers and others.'  

Multiple advocacy requires time for the give-and-take process among advocates, which may occasionally impose undue delays on decision-making. This prerequisite can seriously restrict its utility in times of crisis and war.  

Despite its many imperfections, multiple advocacy makes sense. In reality, all other things are never held equal — neither resources nor the influence of different organizations or actors. Naturally, in a politically competitive environment some organizations (or one) will come to prevail over the others. Then in the aftermath of a major intelligence failure, multiple reforms will again provide corrective relief until one agency manages to
build up its relative power to the point where the same cycle begins once more.

Other, and at times simpler, organizational mechanisms have been proposed as antidotes to the dangers of groupthink and conformity. In demonstrating his willingness to accept criticism, the executive (or other relevant leader) should encourage each member of a group to raise his objections and doubts. The executive leader 'should be impartial instead of stating preferences and expectations at the outset .... [He should] limit his briefings to unbiased statements about the scope of the problem and the limitations of available resources without advocating specific proposals he would like to see adopted.' This allows the conferees the opportunity to develop an atmosphere of open inquiry and to explore impartially a wide range of policy alternatives: to encourage multiple advocacy, to divide groups into new subgroups under new chairmen and then to come back together to discuss their differences again; whenever possible, individual group members should discuss the group's deliberations with trusted outside friends; to invite outside members to group discussions; after searching a preliminary consensus the group should hold a second chance meeting at which every member can express his residual doubts and rethink the entire issue before making a definitive choice. Some of these suggestions are theoretically easy to implement and involve relatively little cost, while others, such as an initial neutral attitude on the part of the leader, would be much more challenging to bring about.

As stated earlier, organizational reforms cannot be expected to completely overcome the fundamental problems of inaccurate perception and insulate the intelligence policymaking process from political influences. Ultimately, the effectiveness of these mechanisms depends upon the general quality of the political culture and the character of the leaders who must make the final decisions. Yet even though the expected returns from organizational reforms can only be limited, all changes that increase diversity, criticism and free discussion must be advocated.

The Devil's Advocate

The institution of the devil's advocate is well known. The idea is to encourage an individual to freely express unpopular, dissenting opinions, which allows decision-makers to consider alternative views while protecting those who present them. The role can be assigned on an ad hoc basis to individuals in a given discussion, or be institutionalized down to the smallest detail and assigned on a continuing basis to an individual or group. The problem with this mechanism is that it is an artificial method of introducing unpopular concepts. If the role is assigned to a typical member of an intelligence organization, for example, he cannot be expected to express the conviction and in-depth understanding of someone who genuinely believes in that position. In general, a true advocate of opposing views on an important issue would not be employed in an intelligence organization in the first place, unless he were to conceal his actual opinions in order to survive. If the dissenter is not expressing his personal viewpoint, he will end up playing the
role of the opposition as perceived by the group to which he belongs. (This is akin to playing chess against oneself.) More misleading than helpful, such an arrangement would perpetuate the accepted image of the adversary instead of penetrating to the core of his (very different) perceptions. On the other hand, if the devil's advocate is presenting his real opinions, he will be singled out as hostile to the group's interest and will not be taken into its confidence. A genuine devil's advocate should come from outside the organizational system, but in practice he is usually part of it. In fact, the very obstacles that make it impossible to perceive the adversary correctly would also apply to him. Furthermore, the role of devil's advocate would soon become so routinized that no one would take it seriously. An environment which can tolerate dissent would be far more constructive than the artificial tolerance of opposition.

Clearly, the majority of failures to anticipate strategic surprise can be correlated with conceptual rigidity and a high incidence of perceptual continuity. Therefore, analysts (and to a lesser extent, political or military leaders) should be encouraged to consider alternative interpretations of data and new evidence, and continuously to reevaluate their concept while avoiding dogmatic adherence to given concepts. The search for ways to promote more open-minded attitudes is basic to almost all proposals for the improvement of intelligence work; to this end, analysts must be encouraged to present their views openly, to be critical, to fight for their opinions if necessary, and to resist group and political pressures. This is perhaps the most rudimentary condition necessary for the upgrading of intelligence work – yet it is also an ideal demand that can never be fully attained within a human environment.

Inasmuch as the independent judgment of individual analysts at all levels can not be guaranteed within each organization, the fostering of inter-organizational competition may enhance the diversity and freedom of the intelligence process in general.

*     *     *

Far-reaching advances in the technical means of gathering intelligence information, and the greater awareness of political, perceptual mechanisms undermining the intelligence process, have not yielded corresponding progress in the ability to anticipate strategic surprise. On this account, understanding but not being able to avoid this phenomenon has led to a certain sense of futility. Napoleon once said, '... Uncertainty is the essence of war, surprise its rule.' If anything, history provides us with the consoling observation that there is no direct correlation between achieving the highest degree of surprise at the outbreak of a war and ultimately emerging victorious. The next best thing to avoiding the surprise, therefore, is to be able to cope with it once it has occurred, and this requires the judicious build-up of military strength in peacetime.
In light of the preceding observations, it is of the utmost importance to prepare an array of methods to deal with a sudden attack once it has taken place. Only a few of such measures will be mentioned in this context.

(a) Upgrade military plans and preparations for operations in the event of a surprise attack. This must include detailed contingency plans, staff exercises, and military field exercises.

(b) Special emphasis must be placed on the preparation and protection of headquarters, communications centers, military airfields, mobilization centers, weapons, ammunition, and fuel depots, major bridges, tunnels, and other “choke points”. All key bases and communication centers must be able to withstand a conventional first strike in order to provide a conventional second strike capability, and communication networks should be designed with positive redundancy sufficient for post-attack survival.

(c) Special plans must be drawn up to carry out effectively and even accelerate mobilization procedures under attack conditions. Furthermore, they should be maintained and checked by exercises and updating at regular intervals.

(d) A variety of defensive counter-surprises, both technical and operational, should be prepared.

1. On the technological side, the defender can ready more effective anti-aircraft and/or anti-tank missiles to be operated in layered concentrations. New technologies can include dynamic mining, or the preparation of minefields that will channel the attacker into specific killing zones; electronic and other counter-measures to disrupt the attacker’s communications (C3I facilities); and neutralization of his major weapons systems.

2. The initiation of counter-operations, and if possible interceptive attacks, against the attacker. A select number of units should always be available for counter-operations against the enemy’s rear echelons, airfields, and communication and supply lines, to name a few. The defender’s goal should be to throw the attacker off balance by resorting to aggressive, unexpected moves that concentrate on vulnerable points in the attacker’s ‘armor’. Most suitable for such operations is air power, the flexibility and nature of which allows for a short reaction time and the ability to attack all echelons of the enemy forces. (For this reason, it is of great importance to develop the conventional second-strike capabilities of the Air Force, which includes protecting the aircraft, runways, ammunition and fuel depots from the enemy’s first strike.) In addition to the air force, special operations units such as rangers, paratroopers, and SAS can react quickly and effectively to a sudden attack.
Complex Man–Machine Accidents

It is of great heuristic interest to compare accidents arising from the complex interaction of man and machine to the problems involved in trying to anticipate or prevent a strategic surprise. Complex man–machine accidents (such as the Three Mile Island nuclear reactor mishap) are in some ways simpler than a human conflict type of situation. Complex machines, unlike enemies, don't deliberately try to conceal aggressive intentions, nor do they resort to deception operations or tailor their strategies to ‘attack’ different operators. Furthermore, although the number of potential causes for an accident is very large, it is still finite and the possible structure or consequences of an accident may be better analyzed before it occurs (i.e., if a valve fails at point X, then the flow of water will be reduced by Y per cent which will increase the temperature in the reactor by a certain percentage, and so on). For this reason, it can also be expected that, in the future, the decision-making process in complex man–machine crisis situations could be left to computers, which would ‘automatically’ make better and faster decisions than any human being. Nevertheless, it has proven to be impossible either to predict or to avoid accidents (or man–machine ‘surprises’). It is of course the human element in this situation which is the weakest, least predictable link.

Three types of accidents are recognized in complex man–machine disasters: they are unique accidents, discrete accidents, and calculated risk accidents. To the first type of accident belongs, for example, the collapse of a dam in a powerful earthquake; or the simultaneous heart attack of a pilot and co-pilot in an airliner. ‘No reasonable protection is possible against freak accidents or Acts of God.’ Discrete accidents can involve equipment failure, a condition that can be corrected so that it will not happen again. Such mishaps frequently occur in all human–machine interactions and result from a limited design error, an operator’s mistake, and the like. In a discrete accident, the system responds to that source of error without any significant synergistic developments, and backup systems and isolation devices come into play. The system as such is not abandoned, as it can be made ‘safer’ through modification.

Calculated risk type of accidents are of a statistical nature (i.e., the probability of their occurrence could conceivably be calculated, and preventive or corrective measures can or will be taken according to a cost/benefit analysis and the probability involved). In reality, though, highly complex systems are susceptible to many unknown risks and, therefore, the actual risk of an accident occurring cannot be calculated.

These three types of accidents can also be relevant to the analysis of strategic surprise. In many respects, particularly for each different country, strategic surprise in its magnitude has the characteristics of a unique accident. This is especially true of large-scale, out-of-the-blue surprise attacks. (The unprecedented launching of a nuclear surprise attack could fall under this category.)

Military and intelligence tend to treat strategic surprise as if it were a discrete accident which can be ‘fixed’. History teaches us that no such fail-safe corrective measures exist, and moreover, that strategic surprise will take place regardless of the improvements or modifications that have been made. Mistaking strategic surprise for a discrete accident can, in fact, be very misleading, for it creates illusions of safety leading to even more intense surprise in the future.

The calculated risk explanation for accidents is pertinent to strategic surprise in
those situations where politicians or intelligence analysts assume that they know or can estimate the calculus of risk for an enemy attack with reasonable accuracy, whereas such calculations are rarely possible or reliable.

The student of strategic surprise is struck by the similarities between complex man–machine accidents and the latter phenomenon.

A. Complexity and inevitability. 'The accident at TMI was not a preventable one ..., 'They cannot be prevented. They are unanticipated. It is not feasible to train, design, or build in such a way as to anticipate all eventualities in complex systems where the parts are tightly coupled ... the complexity of systems outruns all controls.' ' ... Normal accidents, whose origins lie fallow and simmer in the very complexity of the interactive system, waiting upon some failure of equipment, design, or operator action to give them brief, fierce life, cannot be eliminated. Indeed, they grow with the complexity of the system, including the complexity added by the safety features.'

B. Warning: signals and noise. The normal accident is characterized by ‘signals which provide warnings only in retrospect, making prevention difficult'.

Complex human-machine systems abound in warnings – signs in red letters, flashing lights, horns, sounding, italicized passages in training manuals and operating instructions, decals on equipment, analyses of faults in technical reports, and a light snowfall of circulars and alerts .... Warnings work; but not all the time. We should not be surprised; the very volume of warning devices testifies to this likelihood. If warnings were heeded, we would need only a few modest and tasteful ones rather than a steady drill of admonitions punctuated by alarms and lights.

... Why are warnings not always heeded? There are many reasons, and when we consider the overpopulation of complex, high-risk systems that someone has decided we cannot live without, they are disturbing.

Consider three categories of warnings. First, there are deviations, steady-state conditions that do not activate significant alarms. There was a rather long list of these at Three Mile Island .... Each one individually is considered trivial or interpreted in a routine framework. Only hindsight discloses the meaning of these deviations. Second, there are alarms, such as flashing lights or circuit breaker trips or dials reading in the red zone. But operators are accustomed to interpreting these alarms as insignificant when they have a conception of the problem which triggered them. Or if the operators have no conception of the problem, the alarm may be attributed to faulty alarm equipment .... Alarms, like deviations, always outnumber actual accidents: warnings are in greater supply than actual malfunctions.

Past accidents, mute predictors of future ones, form the third category of warnings. But history is no guide for highly infrequent events. They are not expected to occur again; generally they don't.

Following an accident, reforms, improvements, better procedures will be implemented .... Operators will be flooded with new warnings. But it is normal for the systems to have accidents; warnings cannot affect the normal accident. Tight coupling encourages normal accidents, with their highly interdependent synergistic aspects, but loose coupling muffles warnings.

Whether systems are loosely or tightly coupled, they all face another problem with warnings – the signal-to-noise ratio. Only after the event, when we
construct imaginative (and frequently dubious) explanations of what went wrong, does some of the noise reveal itself as a signal. The operators at TMI had literally to turn off alarms; so many of them were sounding and blinking that signals passed into noise.

The student of strategic surprise will be able to identify many additional similarities such as: problems of coordination and failures of communication when warnings are not made available to the proper people; the political dimensions in which top decision-makers have other priorities and/or refuse to listen to warnings because they are reluctant to pay the costs of improvement and precautionary measures; problems of human perceptions where the possibility of unfamiliar types of accidents and malfunctions is not taken seriously. '... The normal accident is unforeseeable; its “warnings” are socially constructed.'

There is still much more the strategic analysts can learn from man–machine accidents and disaster theory.

NOTES

1. On the inverse correlation between strength and the incentive to resort to surprise, stratagem and deception, see Michael I. Handel, ‘Intelligence and Deception’, The Journal of Strategic Studies 5 (March 1982), 122–54, 145.

2. This is perhaps the reason that in early Soviet military doctrine, surprise was seen as a ‘transitory’ but not a decisive factor. Primarily identified with Stalin’s contribution to military science, these early views were still paid lip service after the German attack on the Soviet Union and even as late as the early 1950s and the nuclear age. The appearance of nuclear weapons rendered earlier Marxist–Leninist observations on the transitory (temporary) and permanent elements of war obsolete. Despite theoretical lip service to the secondary importance of strategic surprise, in practice the Soviet military doctrine assigns it a great deal of importance in conventional as much as in nuclear war. See Raymond L. Garthoff, The Soviet Image of Future War (Washington DC: Public Affairs Press, 1959), Ch.3: ‘The Role of Surprise and Blitzkrieg’.


4. Ibid., p.545.


6. This apt phrase was suggested by Thomas C. Schelling in *The Strategy of Conflict* (Cambridge, MA: Harvard University Press,1960), pp.207-30, and in *Arms and Influence* (New Haven: Yale University Press, 1966), p.221. These two books have been neglected by the students of strategic surprise.


17. For the difficulties involved in estimating Hitler’s intentions and in predicting his style of operation, see Michael I. Handel, *The Diplomacy of Surprise* (Cambridge, MA: Harvard Center for International Affairs, 1981), Ch.2, pp.31–96. Underestimating the capabilities of an adversary may lead to erroneous conclusions concerning his short-term intentions. Given the fact that capabilities are normally easier to assess than intentions, a competent intelligence organization is less likely to commit this type of error. Japanese intelligence in 1945 vastly underrated Soviet capabilities in Manchuria and therefore miscalculated Soviet intentions to launch a large-scale offensive in August 1945. For an interesting and detailed analysis, see Edward J. Drea, ‘Missing Intentions: Japanese Intelligence and the Soviet Invasion of Manchuria, 1945’, *Military Affairs* (April 1984), 66–73.


26. The term is Schelling’s. See *The Strategy of Conflict*, pp.244–5.

27. For literature on this case, see note 12 above.


31. Ibid.

33. For an interesting case, see Jones, *Most Secret War*, pp.233-5.
34. Howells, 'Intelligence in Crises', p.361.
42. For a detailed discussion, see Jervis, 'Hypothesis on Misperception'.
43. Booth. He refers to this phenomenon as the 'Hamlet syndrome'.
47. Lanir. By basic or fundamental surprise, Lanir means the lack of 'correct' understanding by a given society of its own problems, situation, capabilities, direction of development, the gap between its goals and means, the absence of understanding how its neighbors perceive it and the like. This new concept does not add any constructive dimension to the study of intelligence for reasons mentioned in the preceeding text, and may be methodologically more confusing than helpful.
49. Ibid., p.49.
52. See Thomas L. Hughes, *The Fate of Facts in the World of Men: Foreign Policy and Intelligence Making* (New York: Headline Series, Foreign Policy Association, December 1976, no.233), p.15. This is one of the best essays on the use and misuse of intelligence by political leaders, and on the problems of cooperation between the intelligence community and political decision-makers.

Despite its importance, little has been written on politics and intelligence, or the politics...
of intelligence. Most of the existing observations are scattered throughout memoirs, histories of specific intelligence operations, and the like. An excellent chapter on this subject can be found in McLachlan, Ch.15, pp.338-66, as well as in the rest of the book. Some material concerning the bureaucratic politics of intelligence can be found in Mark M. Lowenthal, U.S. Intelligence: Evolution and Anatomy, The Washington Papers, 105, Vol.12 (1984).


Similar to those of Howells, are the observations of Yehoshafat Harkabi in 'The Intelligence Policymaker Tangle', Jerusalem Quarterly 30 (Winter 1984), 125-31. For a different angle on intelligence and policymaking, focusing on the influence of intelligence estimates on US-USSR relations, see Raymond L. Garthoff, Intelligence Assessment and Policymaking: A Decision Point in the Kennedy Administration (Washington DC: The Brookings Institution, 1984).


54. Ashman, p.53.

58. Howells, p.352 (my emphasis).
64. Lewin, p.75.
65. See McLachlan, Room 39, Ch.6, pp.124–43, and Ch.15, pp.338–67. Many leaders cannot resist the temptation to become their own intelligence officers. This practice is dangerous for the following reasons: (a) Leaders have only a limited amount of time to devote to the in-depth analysis of almost any subject. (b) Most often they are not experts or have only limited knowledge of the problems they intend to analyze. (c) Above all, they will be unable to be objective on exactly those subjects that interest them the most. (d) They tend to focus on pressing issues but ignore other important issues. This danger is best demonstrated by the statement attributed to Kissinger, 'I don't know what kind of intelligence I want, what I know is when I get it.'


68. Ibid., pp.30–31.

69. Ibid., p.20.


74. Perrow, p.21.

75. Howells, p.362.

76. A recently published article by a former senior Israeli intelligence officer (apparently the former head of collection of Israeli military intelligence) tries to demonstrate that the 'purely rational' decision-making process in intelligence analysis as well as in intelligence relations with policymakers can exist. The author recommends that the collected facts be allowed to speak for themselves. In light of his experience, this is a startlingly naive recommendation (yet a persistent one) because (a) the intelligence process cannot be totally isolated from the effect of politics; and (b) facts don't and cannot speak for themselves. See Brigadier General (ret.) Yoel Ben-Porat, 'The role of the Political Level in Estimates', Haaretz (in Hebrew) (20 March 1984), p.3; see also Yoel Ben-Porat, 'Estimates – Why They Collapse', in Ma'arachot, (in Hebrew) (October 1983), pp.29–39.

77. Handel, Perception, Deception and Surprise, p.17.


For the reasons outlined in the preceding text – and primarily, for the low interest in, and regard for, intelligence work by military people (according to McLachlan), McLachlan suggests that this work is better performed by civilians. See McLachlan, Room 39, Ch.15. In his conclusion he recommends that '... intelligence for the fighting services should be directed as far as possible by civilians'. pp.365, 342–5. He makes a powerful case, but seems to carry it a bit too far. See also Handel, 'Intelligence and Deception', p.140.

79. Quoted from Wesley K. Wark, 'Baltic Submarine Bogeys: British Naval Intelligence and Nazi Germany 1933–1939', The Journal of Strategic Studies 6 (March 1983), 60–81, 78.

80. Quoted from Collier, pp.64–5, 70. For the problems of, and measures taken to improve, the coordination of British intelligence operations during the Second World War, see:McLachlan, Room 39, p.298, Ch.11, 'Three Heads are Better ... '. Includes an excellent discussion of British intelligence coordination at the highest level during the Second World War. See also McLachlan, 'Naval Intelligence in World War II', p.222. See also F.H. Hinsley et al., British Intelligence in the Second World War, Vol.1 (London: HMSO, 1979), Ch.9: 'Reorganizations and Reassessment During the Winter of

81. Hughes, pp.49–50.
83. McLachlan, Room 39, Ch.11, ‘Three Heads are Better …’, p.298.
87. On the problems of parochialism, over-secrecy, compartmentalization, coordination, and the ‘indivisible nature’ of intelligence work, see also McLachlan, Room 39, pp.360, 362–3; also Lowenthal.
89. See Lowenthal.
92. George, Presidential Decision Making.
93. Ibid., pp.195–9, 207.
94. Ibid., p.203.
95. Ibid., p.204.
98. Ibid.
101. Ibid., pp.207–24.
104. In the acquisition of information, a balance must also be struck between technological and human intelligence. The trend during the last two decades has been to invest more heavily in the technical collection of information and relatively to weaken the human effort. This is not an unexpected development in view of the fantastic progress in technology in recent years, yet it will inevitably result in a search for ‘the coin not where it fell but under the lamp’. The emphasis on technical collection through such methods as satellite reconnaissance and electronic monitoring will naturally focus on the military and not the political-diplomatic dimension, and on military capabilities rather than on intentions. Nevertheless, there is no substitute for the human collection effort when it comes to the political dimension. Normally, only the agent on the spot may be able to give timely warning of a plan for a coup d'état in Saudi Arabia. No satellite could report a last-minute decision by Galtieri and the Argentinian military junta to launch an attack on the Falkland Islands half a year ahead of earlier plans, nor could it warn against a car bomb or terrorist attack by a radical Iranian group in Lebanon. See also Patrick J. McGarvey, CIA: The Myth and the Madness (Baltimore: Penguin 1972), Ch.5, ‘Technology: The Tail Wagging the Dog?’, pp.93–116.

107. One weapons system that was considered to have great potential to halt a surprise attack (with the central front in Europe being the particular consideration) was the neutron bomb – a low-yield intense radiation nuclear bomb which presumably could be used instantaneously with less fear of the conflict deteriorating into nuclear escalation. See Col. Daniel Gans, ‘Neutron Weapons: Solution to a Surprise Attack?’, Military Review (January 1982), 19–37 (Part I) and (February 1982), 55–72 (Part II).

108. This discussion is primarily based on Perrow; all quotations are from this excellent article. See also Daniel F. Ford, Three Mile Island: Thirty Minutes to Meltdown (Harmondsworth: Penguin Books, 1982), and Barry A. Turner, ‘The Organizational and Interorganizational Development of Disasters’, Administrative Science Quarterly 21 (Sep. 1976), 378–96.