Fundamental Surprises

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Chapter 1: Introduction to Surprise

Surprises are inevitable; they come from the limits of people's knowledge and understanding of their environment and themselves. Although advance in science, technology, and organizations have increased our ability to comprehend and control our environment; painful surprises are still with us. Modern science, technology, and organizations have, in fact, further complicated our interaction with the environment, creating new and more complex problems, and opportunities for surprise.

Some surprises are caused by difficulties in acquiring the growing amount of information needed for effective control of the environment and by limitations in our ability to judge that information once it is at hand. In other cases, surprises occur because someone deliberately prevents us from getting needed information or misleads us by providing false information.

The American Heritage dictionary of the English Language defines the art of surprise as an "unexpected occurrence, encounter, or subject of observation, attack." [1] This definition confounds the distinction between the observer and between the two actors, one who "surprises," and the one who is "surprised." Those who intend to create

surprises study their victims' beliefs and assumptions in order to create false impressions that will be readily accepted. Those who might be victims study potential aggressors in order to discover their intentions and perhaps even lead their adversary astray.

Little research has been conducted on the question of what people learn from surprises. One of the few studies, performed by Baruch Fischoff,[2] provides evidence that human beings have a strong bias in hindsight toward judging unexpected events as less surprising than they actually were. The knowledge that they gain after the unexpected occurrences of an event leads them to underestimate what they have to learn from the surprise. These rarely trigger deep wondering about the source of surprises and why academic speculation on the phenomenon of surprise is often so dull.

We tend to be less forgiving about surprises and surprises that are conceived and initiated deliberately by a rival. Societies and organizations tend to remember those surprises, to record and study them. The most outstanding examples of awareness to surprises and surprise prevention can be found in military domain.

Surprise has always been an integral part of war. Armies try, often successfully, to surprise their adversaries in the place, timing, direction, weapons, and methods of attack. Historically, initial surprise has rarely determined the ultimate results in protracted wars. Pearl Harbor and Barbarossa might be recent classic examples. However, modern technology has dramatically changed the impact that a surprise attack could have. It enables decisive results by sudden missile, air, or armour strikes that by themselves determine the outcome.

Therefore, there is probably no domain in which concern over surprises and early warning procedures has been better articulates than in defense. National intelligence services absorb technological innovation more quickly than other social systems. The budget for surprise prevention is vast compared to other public purposes. The brainpower within its ranks exceeds that of most governmental organizations. Its successes and failures are the topic of this book. If they can be understood, then insight may be gleaned for how other aspects of modern society confront the phenomena of surprise.

For the researcher, defense offers many advantages: the transition between peace and war is easy to define and the results of strategic surprises are more clear-cut than in

any other domain. Militaries are relatively well-documented organizations. They have a tradition of learning lessons, which can itself be studied for evidence of how they respond to surprises. Since World War II, the subject of military surprise has received continuous academic research attention, providing more studies, tested hypotheses, and documented surprises than any other field. Therefore, the following survey of intelligence methods and experience in understanding and preventing military surprises provides a fruitful point of departure for our inquiry.

A. National Intelligence and the concept of Surprise Prevention

Modern National Intelligence, as a systematic enterprise,[3] emerged as an extension of World War II military intelligence. The emphasis in the war on strategic bombing and on economic and psychological warfare as the primary ways of subduing the enemy led to a growing focus on nonmilitary aspects of intelligence. This process reached its peak during the final stages of the war, when military administration of the occupied countries, with its focus on imposing new political structures on Japan and Germany, broadened the need of the military high commands for nonmilitary intelligence. As a result, the focus of military intelligence expanded to encompass a wide array of political, economic, and sociological subjects.

In 1946, the perceived Soviet threat let President Truman to form the central Intelligence Group (CIG), which in 1947 became the Central Intelligence Agency (CIA). Veterans of U.S. World War II military intelligence were recruited to design and head the new organizations. As a result, national intelligence was seen as a continuation of military intelligence, as it had developed toward the end of World War II. The doctrine of military intelligence was adopted to peace-time intelligence without a detailed analysis of the difference between the two.[4] Both were considered part of a pyramidal structure with tactical military intelligence at the bottom, strategic military intelligence in the middle, and national intelligence at the top. The distinction between the three was largely in the scope of their client's needs and the quantity of information demanded. As one progresses up the pyramid, the required information becomes increasingly ill defined. In addition, its focus shifts from concern with technical capabilities to concern with enemy intentions.

According to the glossary of the Church committee Report, [5] "tactical intelligence" is defined as "intelligence supporting plans and operations at the military unit level. Tactical and strategic intelligence differ only in scope, point of view, and level of employment."[6] "Strategic intelligence" is defined as "intelligence required for the formation of policy and military plans and operations at the national and international levels."[7] "National intelligence" is defined as "intelligence produced by the CIA which bears on broad aspects of United States national policy, and national security. It is of concern to more than one department or agency".[8]

The intended function of the pyramid can be see in the following quote from one of the founders of National Intelligence: "The goal of intelligence is, at the beginning, to receive a large amount of raw data, after which the process is made of steps, where each is a base for the other."[9] Thus, national intelligence unfolds in a meaningful order, with each "piece of information" fitting into the pyramidal structure of knowledge. The underlying assumption is that complete understanding can be based on information at different degrees of generalization; one can construct an understanding of an entire complex political strategic structure.

George Pettee, a pioneer of U.S. national intelligence methodology in the last forties, describes the essence of intelligence work as refinement of information in a process of hierarchical inference; "Roughly it may be said that in order to be of use for its purpose, the volume of intelligence had to be cut ninety-nine percent, or more, but that the remaining one percent had to reflect the entire mass of significant data without error or distortion."[10] His premise is that human cognition can be based upon separate and independent examination of facts, and that it is possible to draw a straight line between information and conclusions.

According to Sherman Kent, an O.S.S. veteran and one of the first American national intelligence theoreticians, the purpose of national intelligence is to "be a vast and living encyclopedia of reference."[11] The key to intelligence, as he saw it, was a well-developed organization able to bring together the best specialists with the most comprehensive and reliable information.

From this perspective, Pettee and Kent argued that it would not be possible to surprise a country with an efficient intelligence organization capable of collecting, analyzing, and

distributing "all" the information on the enemy. Pettee explicitly claimed that the Pearl Harbor surprise could have been avoided had such as organization existed in the United States on the eve of World War II.[12]

According to this methodology, the intelligence analyst is not a creative contributor, but an observer whose job it is to meticulously report observations and reach correct conclusions from them by applying simple inductive laws that allow no room for subjective interpretation.

An early critic of this approach was Ben Wasserman, who questioned three assumptions underlying this methodology: naïve realism, the belief that knowledge consists of objective facts allowing only one interpretation; inductionism, the belief that knowledge is induced by unbiased observation; and the notion of a "determined future" that could be derived form present information.[13]

Wasserman proposed to replace the induction approach with a deductive methodology that would center around the examination of explicit theories. His criticism and proposals, however, received little attention. The early Sixties in the U.S. was, rather, a peak period for the optimistic belief that "information" combined with statistical techniques could solve the mysteries of social and political behavior.

In 1962 Roberta Wohlstetter's book "Pearl Harbor: Warning and Decision" received wide attention among scholars and practitioners alike.[14] Her well-documented study of the Pearl Harbor surprise contradicted the assumption that it would have been possible to prevent the surprise of Pearl Harbor if "all" the information had been available. She claimed that there had actually been sufficient information for the discovery of the upcoming Japanese attack. The failure did not result from insufficient information, but from misunderstanding of it. Wohlstetter's main thesis is that intelligence-gathering mechanisms unavoidably accumulate not only useful information, or signals, but also irrelevant information, or noise. Surprises occur when the noises are interpreted as signals and vice versa.

The concepts of "signals" versus "noises" come from Shannon's communication theory.[15] In its original form, the basic principle of this theory is that increasing the quantity of signals passing a channel with given length and width inevitably increases the quantity of noise in it. Shannon's theory aimed at optimizing the balance between signal

and noise. Understood either literally or figuratively, the theory served as a springboard for intellectual activity in electricity and electronics, as well as in fields such as cybernetics, cognitive psychology, and music.[13]

Roberta Wohlstetter stretched the meaning of "noise" to include what she saw as a long list of causes that prevented the identification of early warning signals. These include:

- Deception. The Japanese succeeded in deceiving American Intelligence by diverting American attention to other possible threats and by maintaining a routine volume of radio traffic suggesting innocent explanations, such as maneuver exercises.
- Communications failure. Information, analysis, and warning did not flow through the chains of command due to information overload, time pressure, and difficulties in allocation of attention.
- Bureaucratic organizational deficiencies. Information failed to flow through the chain of command and across the organizational links between Washington an the headquarters in Honolulu and between Army and Navy
- Misconceptions of the enemy. Errors caused by overconfidence, wishful thinking, lack of experience and overconfidence, wishful thinking, lack of experience and ethnocentrism. The Americans misread signals due to their underestimation of the Japanese people and its technological achievements.
- Intelligence/decision makers' misperceptions. Early warning signals, which had reached decision makers, were dismissed because they were not presented persuasively, because previous "false alarms" belied their messages, or because the same information also suggested other threats.

Many students of surprise tried to manipulate these concepts in the context of other strategic surprise case studies.[17] By now, all major contemporary cases of strategic surprise attacks have been studied and explained with these concepts: "Barbarosa"—Germany's surprise attack on Russia in 1941; 18 the German surprise attack on Norway in 1940; 19 the surprise of the Korean War; 20 the Cuban missile crisis of 1963; 21 the TET offensive in Vietnam in 1968; 22 the Six Day War in the Middle East23 and the

Yom Kippur War in 1973.24 None of these case studies lack of information to be essential to the surprise.

Although the basic assumptions of strategic intelligence methodology regarding surprise prevention have been criticized, Wohlstetter or any other student of strategic surprises has presented no alternative theory. Rather, intelligence practioners are left with the same tacit assumptions:

- The gradual change between tactical early warning and national evaluation, with difficulties growing incrementally along with the ladder of organization and complexity.
- At all levels, information provides the basis for early warning.
- Subjectivity should and can be overcome on all levels of estimation.
- Complexity can be mastered by decomposition and division of labor.

The weakness discovered by the academic surprise research has produce frustration with its inability to provide meaningful proposals for improvements. Intelligence methodologists keep proposing new techniques whose goal is helping analysts overcome difficulties in achieving full sensitivity to information. Most of these involve statistical processing of data.25 Their remedies focus on gathering more information, improving the ability of the intelligence research units to "digest" that information, and disseminating this information as quickly as possible.

A. Intelligence Performance in surprise Prevention

In the last pages of her book, Roberta Wohlstetter also claimed that Pearl Harbor was a unique case of "almost perfect information." As a result, she predicted that "early warning" of surprise attacks would be much less possible in the future. Her forecast was based on technological military developments whereby the side initiating a sudden attack would be able to achieve decisive strategic results by destroying vital targets. From the defender's point of view, warning times have contacted from weeks to minutes. In such a perspective of more than tow decades, Wohlstetter's predictions have proven to be wrong. It seems that technical intelligence has stayed ahead in the race between warning and surprise. As weapon systems increased their speed and accuracy, technical detection also became faster and more accurate.

Therefore, despite her convincing arguments to the effect that surprise may occur even when "all" the information is at hand, the lack of an alternative normative theory and the need to meet the increasing demands of the modern battlefield drove practitioners of national intelligence to deepen their dependence on information as the most tangible, objective, and therefore, the most reliable element in their hazardous profession.

This process was primarily a result of revolutionary developments in electronic and electro-optic technologies. Parallel to these developments, there has been an impressive development, mainly by computers, in the decoding, classification, storage, and distribution of large quantities of information in real time. All this brought about major improvements in national intelligence's military early warning capability. It has enabled accurate detection of the location and movement of any military target and automatic analysis and distribution of the information, in some cases going directly to computerized decision-making systems for fire control.

Given these new intelligence technology capabilities, the likelihood of military surprise attack decreased. Moreover, the ability to gather information had created important opportunities for stabilizing political-military situations, especially in the strategic arms arena. For example, the SALT agreements depended on the possibilities for independent verification of the other side's compliance.

The demands for tactical intelligence have grown rapidly. Commanders at all levels, as well as political decision makers, have become more dependent on detailed technical information. Thus, various pressures have made technical information the focus of intelligence gathering at the tactical, strategic, and national levels alike.

Warning of a war and, to a lesser but still substantial degree, of terrorist attacks26 is still conceived of as the highest challenge of any national intelligence system, and rightfully so. The failure of such early warning can be catastrophic on an unprecedented scale, with the fear of failure growing with the accuracy and destructive power of new weapon systems.

Leaders rely on national intelligence not only on the issue of military surprise attack, but also for warning and clarification of broader issues in the international environment. Unfortunately, the ability to provide this kind of help has not kept pace with progress in providing technical information and may even have been hindered by it. The record of

intelligence organization performance, however, shows that as an intelligence system increases its concern about early warning, it reduces its abilities to foresee basic changes in its environment. In the long run, these deficiencies may cause a catastrophe of even greater magnitude with broader implications than failure in early warning.

Broadly speaking, intelligence's record shows that it gets details right but understand big issues poorly. An alternative phrasing is that intelligence organizations are usually right about facts, but the assumptions to which these facts are fitted are sometimes far wrong. They may be accurate in making short-term predictions, but still perform very poorly in making long-term predictions. They are at their best in allocating targets, and in counting soldiers, artillery, tanks, aircraft, missiles, warships, and submarines. They are good in detecting new technologies and industrial production capabilities. However, they are less able to infer how those new technologies might change the character of war or how well the enemy can recover from destruction of its industry or from blockade of its raw materials and go on fighting.

Every intelligence organization carefully studies its potential enemies doctrines. They usually come closer to being right in judging particular actions. Overall, however, their judgment of the enemy's overall strategy in the next war often turns out to be completely erroneous. The experience of the CIA's Office of National Estimates and the National Intelligence Council suggest that these patterns continue even when a special body of intelligence analysts is assigned to estimate long-range developments without any daily pressure to provide current assessments.

When we move form the strategic mode into the political warning, the intelligence record is even less impressive. The decision makers' awareness of fundamental policy questions is usually provoked more by intellectual activity outside the intelligence community.

Even when the existing policy is critically challenged a basic questions have been identified through a process of political, public, and academic discussion, the contribution of national intelligence to the clarification of the issues in this debate is doubtful. The critical question during the Vietnam War was its essence. Did it reflect communist aggression against democracy? Or was it primarily a domestic struggle over power and social order? If the second assumption is true, then American involvement in the war

was a tragic mistake. In clarifying these issues, the contribution of the American intelligence community was indecisive. The most illuminating part of the debate took place among politicians, intellectuals, and the public. Intelligence was not a prominent contributor.

Edward Powers describes the role of CIA head Richard Helms in the Vietnam War: "His job was to receive questions on paper: How many trucks does Hanoi have? How many of these tucks can we destroy with X level of air strikes? Y Level? Z Level?, and to respond with answers on paper. He was in charge of the men who worked out the equations in the algebra of war."[28]

A Senate subcommittee that studied the quality of American intelligence evaluation of the Arab oil embargo crisis in 1973 concluded that non-intelligence evaluation bodies dealt with the issues in greater depth and that their predictions proved to be more accurate than those of the American intelligence community. [29]

Thus, for example, the contribution of Israel national intelligence to Israel's perception of the P.L.O. was centered on providing accurate information about the location of terrorist activity occurred, Israel intelligence was very successful in quickly updating decision makers with information about the perpetrators, accurately describing their bases and providing information for planning retaliation. Although crucial for immediate decision-making processes, this situational knowledge has more limited value in highlighting broader understanding of the Palestinian issue. Did improved information gathering regarding Soviet military and technology provide a better understanding of the dynamics of the arms race or lead to more successful American policies?

In cases where national intelligence reports address themselves to basic policy issues, their relevance tends to be of a technical character. Their political meaning can be interpreted in different ways. The result is, as a high-ranking American intelligence expert said: "Interested policymakers soon learn that intelligence can be use the way a drunk uses the light post for support rather than illumination."[30] To put it in a different way, intelligence may contribute to politicians' misjudgments simply by giving them more opportunities to select information an analyses fitting their preconceptions.

B. The Signal Versus Noise Paradigmatic Theory of Surprise

After more than three decades of research, the feeling is that much has been learned on the subject of intelligence and surprise, and even more said. The scope has been broadened, and there is that awareness and a deeper understanding of the relationship between them, human judgment, and the political environment. Despite the variety of different emphases, students of surprise still conceive its essence as being represented by the relationship between "signal" and "noise." They attribute warning failures to the human, cultural, an organizational difficulties of overcoming "noise." The term noise is, by now, a rich concept, learning on well-documented theories from varied fields of research:

- It is possible to explain surprise as the theory of information does—by increasing our sensitivity to signals we inevitably increase our vulnerability to absorbing noises.
- Intelligence researchers will argue that the adversary hides the signals and deceives us by increasing the "noise."[31]
- Organizational researchers explain that even when signals are absorbed, there is still organizational noise. Organizations tend to be too large, complex, and bureaucratic,32 so that early warnings get stuck somewhere along the systems channels.
- As cognitive psychology has shown, human beings have difficulty interpreting the meaning of the signal because of their cognitive limitations in dealing with vast amounts of information as well as in judging complex and fuzzy situations.34
- Social psychologists question the dynamics that evolve within the decision making group which may lead to systematic and distorted groupthink.35
- Political science and international relations researchers state that they will always absorb conflicting signals since the realities of the political world are in themselves conflicting and vague.33

There are, thus, a variety of convincing explanations, ones which complement one another in understanding the difficulty that intelligence has in surprise prevention. As mentioned, there is ample evidence in the descriptive literature for all the above. Yet, in the same literature, there is also evidence that raises critical questions about the very

essence of conceiving the meaning of surprise within the conceptual frame of signals versus noises.

Actually, the concept of signal versus noise has become so overwhelming and includes so many different explanations that its strength may have reached the point where it has also become its weakness. It is very difficult to find out what it does not explain.

Describing surprise as the relationship between signal and noise in its broadest meaning requires overriding some contradictions and paradoxes.

The history of modern intelligence provides two contradictory conclusions. One is that for early warning purposes there can never be too much information; more is always better. On the other hand, this same history contains little evidence that more information and more intelligence analysis improve the prevention of politico-strategic surprises.

There are several explanations for intelligence's record in surprise prevention, all pointing to the hypothesis that the better intelligence (or any other early warning organization) is in providing situational early warning, the less shrewd it will be in assessing wider political issues.

One explanation focuses on the effect technology has had on intelligence. It collects "more and more" information about "less and less," in the sense of gathering more data with greater accuracy, but including only the hard facts on tangible events within a small frame of reference. A second contributing trend is the desire for early warning and the emphasis on technical collection, which dictates the breadth and depth of issues that the intelligence tends to accentuate. Basic questions of foreign policy are usually beyond the scope of this mandate.

Broadly speaking, intelligence organizations are reasonably good at knowing their enemies' capabilities. They make their greatest errors, however, when judging proclivities, because intentions usually do not leave clear tracks that intelligence organizations can detect and analyze.

The very fact that the focus of the intelligence analyst is on detecting warning signals unavoidably causes a tendency towards tangible, concrete, horizontal scanning, which is different from the in depth focus and intangible, sometimes abstract way of thinking that are necessary for understanding broad national and strategic issues. Behind situational

intelligence lies the assumption that the event represents the process, and that we understand issues by studying events. But in their search for outstanding events, intelligence analysts lose their ability to notice the process in its inculcation stages, before it has manifested itself in an event.

The main question is whether we have sufficient evidence to support the hypothesis that one common met explanation lies behind that contradiction, namely, that we actually face two different types of surprise. In this light, the prerequisite for better performance in coping with surprises lies in exploring the basic differences between them, rather than in looking for a way to create a common theoretical and practical framework for treating both.

Acknowledging this possibility means challenging the assumption that warning is a product, which if delivered on time, will enable the decision maker to prevent surprise. It means asking whether a strategic surprise can occur even when early warning is reported on time. Are there warnings that are not based solely on distinguishing signals from noise? Is it possible to present a type of foresight that does not assume that information is the only key to understanding?

The traditional concept of signals versus noise assumes a separation between the subject who detects and the objects that are detected, with the surprise being caused by the outside element. However, the record suggests that there is a type of surprise with no way to put a demarcation line between the object and the subject, between the self and the other. Moreover, in some of these cases, the surprise that some "other" causes is only a trigger for deeper inner surprise about oneself. The strategic surprise literature provides some examples of nations' reluctance to draw a line between "us" and "others," between allies and enemies in the next war. For example, between the wars, many British politicians regarded Germany as a potential threat, but saw that Soviet Union as the greatest long-term threat to the British Empire.

Surprise by close allies is a form of surprise about oneself. The historian Grenst reminds us[37] that there is ample evidence to support Francois Bedarida's assertion that the disaster of 1940 owed something to widely held assumptions—in France that Britain had inexhaustible resources, and in Britain that France had an invincible army.[38]

An even more striking example is provided by Israel's fatal misjudgment of its ally, the Christian forces, in the Lebanon War of 1982-1984. Israel proved to be totally wrong in judging the Christians' strength, intentions, and integrity. This mistake turned out to be a main reason for Israel's fiasco in that war. Strikingly, Israel conceived of this development as a betrayal, rather than a surprise.

The most difficult of all to anticipate is surprise regarding a nation's own strengths and weaknesses. Nations have a very poor understanding of themselves in relation to their environment. Governments misconceive their national strengths and weaknesses more than those of their enemies. They surprisingly reveal themselves in war or, again citing May (in a study on government and intelligence assessment before the two world wars): "No nation entered either of the world wars with a clear notion—right or wrong—of how its side and the other measured up."[30]

Israel's history, short but dense with wars, also provides some striking examples of misconceiving one's strength in relation to one's enemies. On the eve of their most impressive demonstration o their superior strength, in the Six Day War, a popular Israel joke reflecting the public mood was that in the Lod International Airport a new sign was hung on the main departure hall: "The last to leave, please turn off the lights."

Misunderstanding oneself in relation to the environment is at the core of most striking surprises. However, it is not an issue that is covered by intelligence's responsibilities. Tacit assumptions about the self cannot be shaken by intelligence inquiry, yet no political strategic assessment is free of them. Intelligence services are considered as the sole body responsible for prevention of defense surprises. While the observation and the study of national self are beyond intelligence's jurisdiction, it is in this realm that one finds some of the deepest roots of surprise.

The question most students of intelligence could improve its performance in surprise prevention. This charge ignores the possibility that there are different types of surprises, some of which intelligence services can prevent and others, which they cannot.

Instead of conceptualizing surprise only as something that needs to be prevented, we might view surprises as opportunities to learn about ourselves. Following this approach, the surprise itself is a kind of signal for something much broader and deeper than its own appearance. In this respect, body temperature provides a useful analogy.

Beyond our desire to lower temperature, we perceive it as a signal that the boy is under some sort of attack. Lowering high body temperatures might provide some immediate relief, yet it does not address the need to examine the cause of the fever. In situations where temperature is a signal for a deeper problem, it is important to continue with other examinations and treatment after the temperature is normal again.

Considering the residual difficulties in distinguishing between "signal" and "noise," it I not surprising that there is no comprehensive definition of "surprise," of the sort that would provide understanding of deeper issues.

C. Plan of the Book

In this book, I present an alternative explanation on the nature, function, and effect of surprises. The following chapter presents this explanation in the form of a theory—the theory of fundamental surprises. At the moment, this theory lacks both predictive power and comprehensiveness. However, to my mind, it still provides a coherent representation of this problem, from which encompassing predictions may one day be derived.

In the social sciences, there is no way to test the validity of a theory, only ways to discuss and demonstrate its fruitfulness. Two different strategies can be used for this purpose. One is to try convincing the reader by providing many supporting examples, unavoidably with a very thin description of each case. The other is to concentrate on one historical case study. That strategy is adopted here using a case with which I have considerable personal familiarity, Israel's Yom Kippur surprise, but also reached a "thick understanding" of the surprise phenomenon in general.

Several reasons pushed me to focus on the surprise embodied by the Yom Kippur War. One is hat some "signal/noise" explanations do not apply. The Yom Kippur surprise is not a story of personal negligence, organizational inefficiency, or inter-organizational failure in coordination. Rather, it occurred in the Israel intelligence community, which was widely considered to be a highly professional and efficient organization with many impressive achievements to its credit. Communications and relationships between intelligence and the other divisions of the Israel Defense Forces (IDF) were close. Geographic distances between battlefields and headquarters were very small (contrasted, say, with the dispersion of relevant American units at Pearl Harbor). In Israel, "everybody knows everybody" to some extent. This acquaintance eliminates

many of the cultural misunderstandings and contrasts that occur in large armies.[41] Moreover, Israel intelligence is distinguished by its ability to absorb new technologies for information gathering.

Given such conditions, which seem highly favorable to avoiding surprises, one has a clear test for asking: why was Israel surprised? What lessons can we learn from this case on the nature of surprises?

In chapter 3, the Yom Kippur surprise is analyzed as a case of early warning failure and by other explanations rooted in the signal versus noise paradigm. This analysis demonstrates why such explanations fail to describe what happened in this case. In Chapter 5, a second analysis of the same event is provided, this time widening the scope in terms of the issues analyzed and the time frame considered. I go back up to the early fifties when Israel's doctrine was created. From this perspective, the nature of the surprise is conceived differently—as a fundamental surprise. In Chapter 5, I again analyze the surprise, further widening the scope of subjects and time, but this time moving forward to the Lebanon War (1982-1984). The central question that we pose in this chapter is whether, what, and how Israel learned from the fundamental surprise(s) it experienced.

In Chapter 6, I shift from the specific case study back to general theory. I apply the lessons learned from the Yom Kippur case to the findings from other well-known surprises in modern history. I also use metaphorical ideas from mathematics, physics, and philosophy of logic to make the theory of fundamental surprise more coherent and accurate. A set of propositions and recommendations concludes the book.

Notes Chapter 1

1. See the definition of the word "surprise" in the American Heritage Dictionary, p.1295.

2. B. Fischhoff, "Hindsight ≠ foresight: The effect of outcome knowledge on judgment under uncertainty". (1975).

3. A definition of national intelligence will be provided on page xx.

4. For more on the status, influence, and conceptions of the O.S.S. founders and the functions of the C.I.A. See:

   S. Kent, Strategic Intelligence for America World Policy (1951).
   G. S. Pettee, The Future of American Secret Intelligence (1946).
   W. Plott, Strategic Intelligence Production: Basic Principles (1957).

5. Church Committee- Final Report of the Select Committee to Study Governmental Operation with Respect to Intelligence. Activities Report #94-755, Book 1, April 1976.

6. Ibid. PP. 629.

7. Ibid. pp. 629

8. Ibid. pp. 625.

9. R. Hilsman, Strategic Intelligence and National Decisions, P. 125 (1956).

10. G. Pettee, op cit. p. 34 (1946).

11. S. Kent, op cit. pp. 78-103.

12. Ibid. p. 1.

13. B. Wasserman, "The Failure of Intelligence Prediction" (1960).

14. R. Wohlstetter, Pearl Harbor: Warning and Decision (1962).

15. C.E. Shannon and Weaver, The Mathematical Theory of Communication (1949).

16. J.R. Pierce, Symbols, Signals and Noises: The Nature and Process of Communication (1961).

17. See, for example:

    A.L. George and R. Smoke, Deterrence in America Foreign Policy: Theory and Practice (1974).

    J. Holsti, "Surprise, Signals and Reaction: The Attack on Norway, April 9, 1940 – Some Observations", (1964).

    K. Knorr, Failures in national intelligence estimates: The case of the Cuban missiles (1964).

    Research written in Israel is also based on Wohlstetter's theory. As Handel remarked, "in surprise research there are no surprises." See: M. Handel, "perception, Deception and Surprise: The case of the Yom Kippur War" (1976).

18. Burton Wholey states that, in contrast to Wohlstetter's model (surprise as a result of the inevitable fogginess of information), it is possible to offer a different model that centers around deception as the cause of surprise. Stalin was surprised in

Barbarosa not because of unclear signs, but because the Germans deceive Stalin. B. Wholey, Codework Barbarosa (1973).

19. I. J. Holsti, see #15.

20. H. A. De Weerd, Strategic Surprise in the Korean War (9162).

21. G. Allison, Essence of Decision (1971) and Knorr op cit. (1964).

22. D. Oberdorfer, TET! (1971) and Westmoreland, A Soldier's Report (1976).

23. N. Safran, From War to War: The Arab-Israel Confrontation 1984-1967. (1969).

    M. Brecher, Decision in Crisis: Israel 1967 and 1973. (1980).

    J. G. Stein, Rational decision making: Israel's security choices (1967).

    Praper, Israel and world politics: Roots of the Third Arab-Israeli War (1968).

24. M. Handel, "Perception, deception and surprise: The case of the Yom Kippur War (1976).

    A. Perlmutter, "Israel's fourth war: October 1973, political and military misconceptions" (1975).

    A. Shlaim, "Failures in national intelligence estimates: The case of the Yom Kippur War" (1976).

25. R. J. Heuer (Ed.), Quantitative Approaches to Political Intelligence: The CIA Experience (1978).

26. The public receives only fragmented information on intelligence activity to detect and prevent terrorism. Yet, even from the little that is available, it is clear that in spite of the fact that the achievements of intelligence organizations in providing early warning of terrorist acts are impressive, gathering information on terrorist groups is much more difficult than gathering information on regular army movements, where there are permanent facilities, weapon systems that cannot be hidden, and detectable communications traffic.

27. See 96th Congress, 2nd Session, House of Representatives Committee on Foreign Affairs, Subcommittee on International Security and Scientific Affairs. Hearings on the Role of Intelligence in the Foreign Policy Process (Washington, DC: Government Printing Office, 1980).

28. T. Powers. The Man Who Kept the Secrets (1981).

29. U.S. Senate/Select Committee on Intelligence, U.S. Intelligence Analysis and the Oil Issue, 1973-1974, Staff Report of the Sub-Committee on Collection, Production, and Quality, 95th Congress, 1st Session (December 1977).

30. T. L. Hughes, The Fate of Facts in the World of Men, p. 24. (1976).

31. On deception see: B. Whaley, Codeword Barbarosa (1973). D. Daniel and K. Hering (Eds.), Strategic Military Deception (1982). Charles Cruickshank, Deception in World War II (1979). J. C. Masterman, The Double Cross System (1972). R. J. Heuer, Jr., "Strategic deceptioin: A psychological perspective" (1981). M. Handel, "Intelligence and deception" (1982).

32. J. March and H. Simon, Organizations (1958).

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33. Allison, op cit. (1971).

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41. In the IDF—in contrast to the three separate branches of the American arms force—there is one central general staff.

Chapter 2: The Theory of Fundamental Surprises

A. Webster's Anecdote

Fundamental to this theory is the distinction between two different types of surprise: situational and fundamental. One way to introduce this distinction is with an anecdote about Noah Webster, the well-known dictionary lexicographer.

One day, he arrived home unexpectedly to find his wife in the arms of his servant. "you surprised me", said his wife. "and you have astonished me", responded Webster.[1] Webster's precise choice of words captured an important difference between his situation and that of is wife.

One difference between surprise and astonishment is the different level of intensity associated with the two: astonishment is more powerful and extensive than surprise. Indeed, Mr. Webster's situation possesses an element of shock. His image of himself and his relations with his wife were suddenly and blatantly proven false. This was not the case for Mrs. Webster who, although surprised by the incident, still could maintain her image of herself, her environment, her husband, and the relations between them. Indeed, even if Mrs. Webster had taken all the steps she viewed as necessary to prevent the incident, she had to assume that there was some possibility of her unfaithfulness eventually being revealed. Her feelings might be analogous to those of drivers whose brakes suddenly fail. Although surprised and frightened, such drivers should have realized that brake failures are always a possibility. Thus, we are aware that failures occur in nature as well as in technical, social, and organizational systems, so that when they do occur, our belief in those systems is not completely destroyed, however surprised and upset we might be.

For Mrs. Webster, the failure was due to an external factor. Although she was uncertain about that external environment she was not uncertain about herself.

In contrast, Mr. Webster's astonishment revealed unrecognized uncertainty extending far beyond his wife, his servant, or other external factors. For him, comprehending the event's significance required a wholistic reexamination of his self-perceptions in relation to his environment. Although this surprise offered Mr. Webster a unique opportunity for self-awareness, it came at the price of refuting his deepest beliefs.

A second distinction between surprise and astonishment lies in one's ability to define in advance the issues for which one must be alert. Surprises relate to specific events, locations, and time frames. Their demarcations are clear. Therefore, it is

possible, in principle, to design early warning systems to prevent them. In contrast, events providing astonishment affect broad scopes and poorly demonstrated issues. Mr. Webster's shocking incident revealed only the "tip of an iceberg".

Another distinction concerns the value of information. Mrs. Webster lacked one item of information, which had she had it in advance, would have allowed preventing her surprise: the information that her husband would return early that day. No single piece of information could have prevented Mr. Webster's astonishment. In most cases, the critical incident is preceded by precursors from which an outside observer could have deduced the state of the couple's relations. Such observers should be less prone to the tendency to interpret information in ways that suit one's won worldview, belittling or even ignoring the diagnostic value of information that contradicts it.

A fourth distinction between fundamental surprise and astonishment is in the ability to learn from the event. For Mrs. Webster, the learning process is simple and direct. Her early warning mechanisms were ineffective. If given a second chance, she might install a mechanism to reduce the possibility of being caught in a similar situational surprise.

Mr. Webster might attempt an explanation that would enable him to comprehend it without having to undergo the painful process of acknowledging and altering a flawed worldview. For example, he might blame the servant for "attacking his innocent wife". If it were established that the servant was not primarily at fault, he might explain the incident as an insignificant, momentary lapse on his wife's behalf. In more general terms, we may say that Mr. Webster's tendency to seek external, incidental reasons reflects the human tendency to behave as though astonishment is merely a surprise and, thus, avoid recognition of the need to experience painful "self" learning.

We will refer to Mrs. Webster's type of sudden discovery as a "situational surprise" and Mr. Webster's sudden relevation of the incompatibility of his self-perception with his environmental reality as a "fundamental surprise". Situational surprises differ from fundamental surprises in four dimensions. The following table sums them up.

INSERT FIGURE 2.1 HERE----------

A situational surprise may trigger a fundamental surprise as in Noah Webster's case. Thus situational and fundamental surprises can be reflected in the same event. Situational surprise, however, can occur without a fundamental one, as for Mrs. Webster.

B. Fundamental Surprises at the Organizational and National Level

Situational surprises are well documented and understood fairly well. The core and essence of fundamental surprises have yet to be recognized.

Failure to recognize the existence of these two different phenomena and the tendency to conceive of fundamental surprises as if they were situational ones is typical, not only at the individual level, but even more so at the organizational and national levels.

Since World War II, there has been considerable improvement in the procedures and tools used by organizations to cope with situational surprises. Of particular importance in this context is the accumulation of vast accurate information on system behavior. It enables reliable monitoring and identification of failures and designing "early warning" mechanisms, thus reducing situational surprises. Procedures have been developed to learn from cases in which surprises have not been prevented and improve the likelihood of preventing future ones. Surprises have become an important tool in improving the performance of high-technology complex organizations. Thus, by and large, organizations are more efficient than individuals in dealing with situational surprises. The nature of fundamental surprises, however, is blunted in organizations even more easily than at the individual level, as organizational self-perceptions are more amorphous and divided. Furthermore, the people at the apex of an organization can console themselves by blaming lower echelons in the organization for surprises, assuming that the learning process and correction procedure lie in their court, thus "absolving" the total organization from overall responsibility. Therefore, organizations' ability to learn fundamental lessons from surprises is less evident than is that of individuals.

Both situational and fundamental surprises become more prominent as technological and organizational complexity increases. On one hand, in complex systems, even a minor situational surprise can start chain reactions that can develop into a catastrophe. On the other hand, rapid changes in the human environment, caused by the increasing use of powerful organizations and sophisticated technologies in shaping and changing the environment, create a new need for learning about one's "self." Such learning is basically different and substantially slower and more difficult than learning about the environment. The more complex and technologically advanced the organization is, the greater the gaps between its ability to prevent the recurrence of situational surprises and its vulnerability to fundamental surprises.

A partial list of fundamental surprises, to mention only the most outstanding, might include the failure of Prohibition in the early Twenties, the Great Depression, Pearl Harbor (1941), the first Soviet atomic bomb explosion (1949), launch of the first Soviet Sputnik (1957), the Cuban missile crisis (1962), the Vietnam War, the Yom Kippur War (1973), and the stagflation. In each case, the surprise was not only about something that the environment caused, but also, and more deeply, about the understanding of the self. The challenge then was to discover this deep misunderstanding of the self and not just the immediate precursors of the event in which it revealed itself.

C. The Social Function of Fundamental Surprises

In the previous sections, we have distinguished between situational and fundamental surprises in cognitive terms. The present section provides a system theory account. The juxtaposition of these descriptions allows us to examine the dependence between structure, cognition, and action within one integrated approach. It also allows discussion of the function of the two types of surprises as representing two different types of thinking, both critical to the existence of social systems.

We argue that:

1. Every system must cope with changes in its environment.

2. There is an upper limit to the magnitude of environmental changes with which a social system can cope. Beyond this limit, its very existence depends on its ability to redefine its own "self."
3. The core of the social process of redefining the self is "fundamental thinking," which is a creative understanding of the self in relation to its changing environment.
4. Such thinking is very rare. Fundamental surprises provide an opportunity for "self" awareness and "self" learning.

W. R. Ashby [2] claimed that organisms could apply two strategies when dealing with changes in their environment: passively, as in the tortoise's shell which buffers sensitive tissue from the variations within the environment, or actively, as in human beings' attempts to prepare for changes in their environment, meeting complex and mobile changes with a complex and mobile defense. Both strategies aim at blocking environmental changes that exceed the system's coping capacity.

Referring to the active strategy, Ashby concluded that only "variety could destroy variety."[3] His "law of requisite variety" states that external variety caused by environmental changes can be absorbed only by the system's inner capability of controlling variety. The greater the expected variety in the environment, the greater the regulativity the systems should have. Ultimate regulation can be achieved in stages. Multi-level systems are able to control a greater variety in the environment. Ashby's Law places an absolute limit to the amount of environmental variety a system can regulate. And efficient system is one that approaches this limit.[4]

His law is based on the assumption that an organism's ability to survive depends on its essential variety being kept within assigned limits. The systems he describes are full of motion but unchanging. Their dynamics are confined to the range of a feedback loop. In such systems, there is a lot of movement but no space for novelty. Resources are strictly allocated, surveillance of environmental deviations lead to quick detection and to responses that are immediate, precise, and standardized. Organic systems can survive only so long as their structured variety is dept within assigned limits. "The concepts of 'survival' and 'stability'

can be brought into an exact relationship. Facts and theorems about either can be used with the other providing the exactness is sustained."[5] Organic systems die when the environment changes beyond their ability to regulate the change allowed by their internal variety.

Situational changes are things that the system can manage within its existing variety system. A situational surprise represents a failure of an Ashby-type mechanism to detect such situational changes. The Ashby system has the ability to overcome situational changes and, in principle, also situational surprises.

Fundamental changes are changes that cannot be controlled by the system's variety.

Social systems are fundamentally different than those modeled by Ashby. They contain internal complexities that enable them to survive even when facing disparate changes in the environment. They can "pull themselves up by their own bootstraps" to new levels of survival. In sociology, the concept of morphogenesis describes social systems' propensity to change their own structure during their cultural lifetime.[6]

Societies can cope with the environment in an organic manner, by keeping the old order of stability, but they are also capable of shifting into a new order, redefining their goals and changing their own structure and sensitivity to the environment. Therefore, they can cope not only with a variety of situational changes—which the system was designed and planned to control by variation of the existing order—but also with disparate fundamental changes that the system in its existing structure, functioning, and goals cannot accommodate.

What enables social systems to perform such morphogenesis is their inherent contradictions. Some of their subsystems function in an organic manner, performing environmental regulation by division of labor and central control. However, other subsystems exert their own will and ability to choose. Thus, the systems as a whole contain internal contradictions between control and freedom, centralism and pluralism, reductionalsim and holism, and between efficiency and preservation of buffers.

While Ashby's organism's system achieves stability in the face of external disturbances by maintaining its internal fixed order, social systems begin to lose their stability as the internal dynamic of these contradictions dwindles.

Contradiction does not imply disorganization, but a type of organization that lacks central control, fixed order, and stability. Instead, it has a type of organization that permits creative social evolution.

The essence of the social system's creativity is freedom, nonuniformity, and nonsynchronous behavior. Slack and buffers are prerequisites, which carry the seeds of novelty. Social systems have to ensure a delicate balance between freedom and control to prevent anarchy and rigidity.

Situational surprises have an important learning function, allowing improvement in the performance of Ashby-type social subsystems. Fundamental surprises potentially have an important function for the social system as a whole, in sharpening the system's self-awareness. No social novelty or fundamental surprises provide rare opportunities for such awareness.

D. Fundamental Surprises and Fundamental Understanding

Situational surprises evoke a "problem solving" type of learning, about which we have a reasonable amount of scientific understanding. However, fundamental thinking is a different kind of thinking, which is not only rare, but also elusive and nonexperimental. Its meaning can be experienced in vitro. My aim is to try to reach some initial understanding of fundamental thinking.

1. In the logic of fundamental learning there is no gradual transfer from situational to fundamental understanding. No amount of situational learning can evoke self-consciousness and no amount of information can help find a new context for self-definition.
2. Fundamental learning is not local. To learn fundamentally, one needs to remove oneself from the time and place of the specific event that triggered the thinking process.
3. Fundamental thinking is holistic. It needs the ability to look at the self and its environment as one system with no division between subject and

object. Therefore, in order to learn fundamentally, one must jump from reductionism to holism.

4. There is no algorithm providing reasoned steps toward fundamental learning, insofar as a precise cause can be assigned to it. It demands understanding and precision. However, the lack of precise information may be more stimulating for fundamental learning than the overflow of accurate information.
5. Although there is a discontinuity between situational and fundamental understanding, fundamental thinking requires the discipline of analytical, reductional, and locally specified thinking. These two logics have to participate in the act. The idea of these two types of thinking and the relationship between them may seem quite metaphysical to those accustomed to thinking of knowledge as a layered pyramid.

A potentially useful analogy for these two different types of thinking is suggested by modern physics' explanation to the "quantum jump" phenomenon. When an electron jumps from one level to another of its energy ladder, it does so in a strange way. It never passes through the intervening space between the steps of the ladder. Instead it seems just to disappear at one step and reappear at the other as it jumps out of the system and returns in another from. Thus, in quantum mechanics, the quantum jump of a single electron is noncausal.[7] to eliminate a causality, it is customary to introduce causal agents called "hidden variables"—behind-the-scene manipulators. It has been shown mathematically, however, by John Bell's famous theorem,[8] and verified experimentally[9], which the hidden variables of quantum mechanics must operate from outside of space-time. More technically, the hidden variables are "nonlocal," acting instantaneously at a distance without any exchange of local signals.

The idea of two different types of logic was also suggested, in a different context, by Thomas Kuhn in his book "The Structure of Scientific Revolutions"[10] as an explanation for scientific transformation and progress. Kuhn's theory originated within the philosophy of science, although sociologists and historians have found it fruitful for explaining other social changes as well.[11] Kuhn differentiates between changes that occur

within “normal science” and paradigm shifts. The logic of normal science plays a role also in paradigm shift, nevertheless, the process is mainly a social one.

In order for such a shift to occur, there is a need for a double crisis. One is “epistemological crisis”: an awareness among the scientific community that there are unsolved problems in the “normal science” that cannot be explained within the existing paradigm. The second is “social crisis”: the primary scientists age, leaving a new generation of scientists devoting them selves to develop a compelling paradigm that could replace the older one that has lost its vigor.

One may claim that the “social crisis” does not represent a different logic but a different type of process. However, the very fact is that paradigms are not shifted as a result of pure scientific logic—the only type of logic that is considered as acceptable within “normal science.” From our point of view, shifts of scientific paradigms in many cases involve the evolution of a new self-concept. Einstein’s Theory of Relativity is the best-known example of a science redefining itself in a way that can never be achieved merely by the analytic logic of science.

A paradigm, as defined by Kuhn, is a group of assumptions, values, and rooted techniques that a scientific community shares by which the members solve the riddles of their research without re-examining the paradigm’s basic assumptions within this process. The paradigm is modified and enriched as a result of “normal science” research, however, shifts from one paradigm to another do not occur by the procedures of “normal science.”

Like fundamental thinking, paradigms shifts involve a higher level of thinking, one that is discrete and discontinuous. Kuhn showed that, within the routine process of normal science, the scientific community does not have a full awareness of its paradigm’s assumptions. Thus, even in the scientific domain, it seems that when scientists are faced with a fundamental surprise, they ten to view the surprise as having a situational character. If this is the case, the scientific domain, despite its commitment to wondering, is not only exposed to the possibility of fundamental surprises, but also may avoid facing that possibility.

The nature of scientific paradigm shifts not only suggests that fundamental surprises occur in the scientific realm, but also shows how difficult the process of new learning is after a fundamental surprise occurs in the nonscientific realm.

In science, the loyalty of scientists is to the accumulation of knowledge, explanations, generalizations, and theory building. They carry responsibility for the development of scientific paradigms. In the social realm, loyalty is to action, and, therefore, to knowledge of the concrete and specific. There is very little awareness, let alone a sense of responsibility, for any fundamental understanding.

The need to act and react forces people in the social realm to stress the situational. The drive for situational learning and problem solving within any organizational context is very powerful. Therefore, when fundamental surprises occur, the tendency is to avoid any fundamental meaning and to learn the situational lessons from the surface events. These distinctions between the two realms suggest that, in the social realm, when fundamental surprise prompts a process of "self" examination, it is done outside the organization or on its fringes, mainly by the intellectuals committed to providing and interpreting social symbols, metaphors, and myths.[12]

In normal circumstances, the influence of intellectuals on the actual process of policy formulation is generally limited. So is their influence on public awareness of these issues modest. However, when the nation is in a fundamental crisis, they can attain an important role. Amos OZ described this situation well via the metaphor of the blind leading the sighted " . . . So long as the caravan proceeds, these men of words only bark or wail. But when the caravan stops, or when it loses its way or its power and becomes totally weakened, the blind will lead the sighted . . ."[13] These "men of words," although acute senses the meaning of the processes behind these events. At the same time, the "sighted" become more amenable to listening to these fundamental comprehension of the national self in relation to its environment is primarily symbolic and not of substance. Intellectuals provide new metaphors and insights for political change.[14] The intellectuals create the confrontation between a society's "self" and "nonself" in symbolic, metaphoric ways. It is by recognizing the "nonself" that one becomes fully aware of the "self."

Voltaire's play Candide is an example of the way intellectuals create such metaphors. In the period of geographical discoveries, European countries acted from a

standpoint of superiority. Voltaire metaphorically used the encounters that French society of his time had with new cultures and societies to expose its fetish for gold. He brought his main character, Candide, to a fictitious foreign country—El Dorado, where land is gold and rocks are diamonds. When a confrontation between Candide and the people of El Dorado occurs, due to their different approaches to gold and diamonds, he (and his audience) become aware that gold and diamonds have no inherent value, only a value determined by society.

By and large, intellectuals by themselves do not change a country's social "self" understanding directly (Voltaire failed in doing so). They do, though, have a vital role in such processes by introducing metaphors that illustrate and clarify the deeper essence of the self's weaknesses and limitations. However, when such processes are not accomplished by political leadership that translates the new "self" metaphors into the political-social terminology and context, they may turn into social nihilism and bring about dissolution. The transformation from fundamental awareness to fundamental learning and from there to a new social understanding is a transformation that requires leadership with vision and historical perspective as well as operational abilities and the ability to translate abstract understanding into political terminology. All this requires leadership with goal-setting vision that exceeds the tangible constraints of resources and pragmatism.

Kuhn assumes that there is constant competition between paradigms. One paradigm challenges another and is ready to claim the crown. A paradigm fails not only because it did not solve the "riddles," but because it has fought another and won. "Competition between segments of the scientific community is the only historical process that ever actually results in the rejection of one previously accepted theory or in the adoption of another . . ."[15] this is also the reason why scientific communities rapidly adapt themselves to a new paradigm and quickly redefine their membership, leaving followers on the fringe.

In the socio-political domain, a vacuum in fundamental thinking may extend over a long period of time. Leaders do not have the time for such reevaluative processes. They have to act.

"One of the things a scientific community acquires with a paradigm is a criterion for choosing problems that can be assumed to have solutions, while the paradigm is taken for granted. To a great extent, these are the only problems that this community will admit as scientific or encourage its members to undertake …"16 "A paradigm is an efficient instrument for solving the problems or puzzles that its paradigms defone."[17] Leaders do not have the luxury of choosing problems that they think they know how to solve.

In the nonscientific reality, fundamental and situational relearning does not overlap in their time dimensions. The development of fundamental understanding is an extended process, whereas the need to derive functional political and military lessons after a surprise is immediate. In such cases, situational thinking and incremental situational decisions may accumulate, substituting for fundamental thinking.

All these factors cause the process of fundamental learning in the social domain to be longer, less direct, more vague, and more frustrating than fundamental learning in the scientific realm.

E. The Process of fundamental surprise

To sum up this theoretical chapter, I propose conceiving the phenomenon of fundamental surprise as a social-cognitive process. This is only one phase within this process. In this phase, outside intervention plays a major role. In all other phases, it is the "self" that is the cause and subject of the process.

In the second phase, the fundamental surprise spills over the boundaries of the specific surprise event that triggered the process, to include issues that have little to do directly with that event. Rather, social and epistemological crises evolve. These crises can lead into the third phase—the fundamental learning phase.

In the fourth phase, the process of morphogenesis occurs. The new perspective of self-understanding is translated into practical political-social terms. Social goals are redefined, the structure of organization is changed, and the system's sensitivity toward its environment is recalibrated. A new requisite variety system evolves.

In the fifth phase, the system seeks greater efficiency and a holistic concept of the self and the environment shifts into the requisite variety mode of dealing with the environment. The system's thinking shifts to a problem-solving logic, and the search for self-awareness is extinguished.

When a fundamental change occurs in the system's environment, the system now treats it like a situational change that can be treated by variations and with greater efficiency within its paradigm. Although this new requisite variety mechanism may seem effective in dealing with environmental changes, the incubation phase of a new fundamental surprise is already there.

This description represents one cycle of a spiral development whose content is always novel and therefore never repeats itself; yet the structure of the process does.

This scheme does not represent the time period of each phase, nor the gaps between phases, which may vary greatly. It also must be understood that fundamental changes in the environment affect the system not only between phase five and phase six, but also all along the process.

What is striking in representing the phenomenon of fundamental surprise as a cyclical process is the possibility that western societies are facing a situation where the rapid rate of fundamental changes exceeds the time period needed for the fundamental learning and morphogenesis phases. We engage technology, science, and organizations to extend our

control of the environment and exploit natural resources and new types of energies; to increase the wealth of individuals, organizations, and nations; to gain military superiority and deterrence capacity; to improve health conditions and prolong the expectancy of life; to reduce the danger of natural and man-made hazards. All these increase the rate of fundamental changes in our environment. At the same time, our ability to face the challenges of fundamental learning (as a self-awareness question) do not improve. On the contrary, I argue that it has decreased.

The extended time period required for fundamental learning, along with the accelerated rate of fundamental changes in the environment, has created a stage where it less likely for social systems to complete one cycle of fundamental learning before a new fundamental change occurs.

Chapter 2 Notes

1. I thank Professor Yehosafat Harkabi for familiarizing me with this anecdote.
2. W. R. Ashby. Introduction to Cybernetics. Chapter 11, p. 202-218, 1966.
3. Ibid, p. 207.
4. According to the "law of requisite variety," the capacity for regulation cannot exceed a system's communication channel capacity. In this sense, the law resembles Shannon's Theorem, which states, "when noise appears in a message the amount that can be removed by a correction channel is limited to the amount of information that can be carried by the same channel." C. E. Shannon & W. Weaver: The Mathematical Theory of Communication (1949). Information plays a crucial role in this strategy of controlling variety. "The fencer must watch his opponent closely and he must gain information in all ways possible if he is to survive." Ashby, p. 201. And the "signal vs. noise" concept fits Shannon's ideas very well.
5. Ashby, p.197.
6. Buckley. Sociology and Modern System Theory (1967).
7. A. Goswami. Creativity and Quantum Theory. Institute of Theoretical Science, University of Oregon (1986)

8. J. S. Bell. On the Einstein-Podolsky-Rosen Paradox. Physics, Vol. 1, 1965, pp.195-200.

   See also: N. Herbert. Quantum Reality. New York: Doubleday (1985).

9. A. Aspect, P. Grangier, and G. Roger. Experimental Realization of the Einstein-Podolsky-Rosen-Bohm Gedanken Experiment: A New Violation of Bell Inequalities. Physical Review Letters, Vol. 49, 1982, pp.91-94.

10. T. Kuhn. The Structure of Scientific Revolutions (1964).

11. R. A. Nisbet. Social Change and History (1969).

    B. Swanson. Social Change (1971).

    G. Wise. "Implicit Irony in Perry Miller's New England Mind" (1968).

    K. W. Deutsch et al. "Conditions Favoring Major Advances in Social Science"(1971).

    D.A. Hollinger. "T.S. Kuhn's Theory of Science and Its Implications for History" (1973).

    S. Wolin. "Paradigms and Political Theories" (1968).

    Frank Knoppelmacher, in his book, Intellectuals and Politics (1968), defined intellectuals as "skilled welders of verbal symbols and concepts for the purpose of moral and political discourse, reflection, articulation or polemic." Following this definition, scholars, including social scientists, are not necessarily intellectuals. Poets and artists may very well be considered intellectuals.

12. On the roles of intellectuals in policy formulation, see also: R. Aron, The Opium of the Intellectuals (1962).

    R. J. Brym. Intellectuals and Politics (1980).

    N. Oren, Intellectuals in Politics (1984).

    D. Schalk, The Spectrum of Political Engagement (1979).

13. Amos Oz. In the Intense Blue Light (1979, Hebrew).

14. Intellectualism should not be identified with truism. I disagree with Hans Morgenthau (see Truth and Honor: Essays of a Decade, p. 14-16, 1970), who argues that while politicians seek power, intellectuals seek truth and [believe] that power and truth contradict one another. It seems to me that politicians and intellectuals seek different types of truth. While politicians are after current

narrow and instrumental aspects of truth, the intellectuals are after durable, moral, and noninstrumental aspects of the truth. Each of these two elites poses questions and, as a result, derives answers that exclude the other.

15. T. Kuhn, p.8.
16. Ibid, p. 37.
17. Ibid, p. 65.

Chapter 3: Yom Kippur Surprise—The Signal Versus Noise Explanation

A. Warning and Surprise

After the Yom Kippur War, the Israel Government appointed The Agranat Commussion1 (named after its chairman) to study the reasons for the IDF's (Israel Defense Forces) failures in the first days of the war. The Committee concluded that military intelligence22 had failed to provide early warning and was therefore largely responsible for Egypt and Syria's early successes. "The Chief of Intelligence had promised the IDF that warning of the enemy's intention to embark on overall war would be given in advance. This warning would allow for organized reserve mobilization. This assurance was posited as a firm foundation for the IDF's defense plans. We find that there was no basis for making such decisive promises to the IDF."3 The failure of Israel intelligence to provide adequate warning was perceived by the Commission as the primary factor precluding the IDF from implementing its plans for the war. Had those

plans been carried out, the IDF would have again achieved—as in previous wars—a rapid, sweeping victory over Arab forces.

At first glance, there was a solid basis for these conceptions. The IDF's strength is based mainly on its reserve units. During wartime, regular troops serve only to stave off enemy forces until the reserves are deployed. Prompt mobilization of reserve forces depends, in turn, on appropriate warning, making Intelligence's failure to provide such warning a critical blow to the plan. The regular forces, which were never intended to sustain a combined Egyptian-Syrian attack, could not withstand the onslaught. Both Syria and Egypt attained extensive initial successes. In the Golan Heights, Syrian units reached beyond Gamla Pass and threatened to cross the Jordan River, while on the southern front, the Egyptian army penetrated up to the "Artillery Road," running parallel to the Suez Canal, 11-13 km from it. (This axis was constructed by the Israelis to enable its artillery units to switch positions along the Canal front). The situation changed only after the reserve units arrived, following considerable delay and heavy losses. Eventually, enemy advances were checked despite the surprise, and the IDF won a decisive victory. Lieutenant-General (res.) Haim Bar-Lev summed up the course of the war as follows:

> "The achievements of the Syrians and the Egyptians during the first 24 hours resulted neither from surprising force ratios nor the failure of one military conception or another. All Syrian and Egyptian achievements on the first day were clearly a function of failure to provide sufficient warning and of surprise. After a day or two, once full preparedness was attained, not only were all further enemy achievements blocked and all advances stopped but also the IDF proceeded to launch a counterattack on the Syrian front and increased the territory held. While the IDF did not entirely nullify Egyptian achievements, it embarked on so fierce a counterattack that I may estimate confidently that had it not been for the cease-fire, the Egyptian Army would have been effectively wiped out."[4]

This explanation, which attributes the Yom Kippur War surprise to warning failure, was not restricted to senior officers and officials involved in the event, whose objectivity might be challenged, nor to the legal Commission, whose investigation might be criticized as focusing on assignment of blame, rather than on a deeper explanation of

the surprise. Nor was it restricted to Israel public opinion, which might have been heavily influenced by strong and sometimes indirect impressions, was made in a long series of academic studies, so that it represents not only the national, juridical, and social consensus, but also the scientific one.

Following the established academic concept of surprise, which identifies surprise with a failure to provide early warning, Israel academic studies of the Yom Kippur War attributed he Yom Kippur surprise to warning failure. These studies viewed the IDF as utterly surprised, blaming the enemy's initial achievements on failure to warn.[6]

To examine how this explanation fits the evidence, it is first necessary to examine the precise definition of "early warning." It is well accepted among strategic surprise scholars that early warning is a relative concept. "Early warning" is usually held to be achieved when intelligence discerns "signals" and transfers them to the decision makers within a period of time that enables implementation of predetermined measures for counteracting potential enemy advantages originating in surprise.[7]

If success or failure of early warning should be judged according to criteria set in advance, the crucial questions become: How did the Israel General Staff view the risks involved in an Arab surprise attack? What steps were considered adequate to deal with a surprise attack? What military plans were actually made? In order to answer these questions we look at Israel's military guidelines, contingency plans, and operational preparations, as well as at the implicit conceptions prevailing in the General Staff and political circles.[8]

B. Warning in Israel War Plans on the Eve of the Yom Kippur War

In early August 1972, a war game—"Iron Ram"—was executed in the IDF's Southern Command. Its purpose was to test the IDF's plans for a possible full-scale war on the Egyptian assault that achieved initial territorial achievements east of the Suez Canal, as part of an overall attempt to conquer the Sinai Peninsula and Gaza Strip.

Insert Map about here

The "war" began at 0500. At daybreak, the Egyptians set up three bridgeheads along the canal (one in the north in the Kantara area, the second in the center in the Firdan Bridge area, and the third in the south in the Kubrit area). Achieving initial success, four infantry divisions, accompanied by about 380 tanks, bridged and crossed

the Suez Canal. At the same time, commando forces carried by helicopters landed deep in Sinai—at the Mitla and Gidi passes and in the Sharm-el-Sheikh region. Egyptian planes bombed the airfields at Refidim and Ofira, as well as Israel Air Force and Intelligence warning installations in the Um Haseiba range. Following these initial successes, Egyptian armored troops were moved to the eastern bank: a brigade of tanks from the Fourth Armored Division in the southern region and an independent tank brigade in the northern one (a total of some 200 tanks).

According to the scenario, Israel would have only about 24 hours warning before the war. Under these assumptions, Israel reserve armored troops would arrive at Refidim only at noon on the third day. Nonetheless, as the exercise was played, IDF regular forces succeeded in repelling the attacking forces back to the canal's western bank by the end of the second day, causing Egyptians heavy losses. The Israel Air Force reached full control of the air space above the canal on the third day. Reserve forces, commanded by Major-General Adan, crossed the northern zone and the canal and, by the fourth day, battles were raging on the Western side of the canal.

The Egyptian plan in this exercise was strikingly like that undertaken in the actual attack a year later. The result of the exercise convinced the Israel General Staff that an Egyptian attack could be blocked by the regular forces alone, leaving reserve troops to be utilized in a counterattack and not for defense. In summary, Major-General Ariel Sharon, then OC Southern Command, declared: "A force of 300 tanks in Sinai enables us to break an attack . . . "[9] According to Major-General Gonen, "I think it is possible to block (an attack) with the regular forces if the Seventh [Brigade] is down there . . . We assumed that the Command's stopping power is sufficient." [10]

Additional evidence of the IDF's concept of the forces required to stop an Egyptian attack appear in its plans for "Operation Dovecote." Originally, this was a plan for deployment of IDF regular forces in Sinai, in the event of "enhanced attrition" (a broad-scope attrition campaign including infiltration raids and seizures). It was based on 300 tanks of the regular division, with two brigades deployed between the canal and "Lateral Road 10A" and a third remaining as a rear guard. The advance brigades were to be stationed along three axes: one with 8 platoons at the water line itself, near the strongholds of the Bar Lev line; the second 8 companies at the strongholds; and the third

along the Lateral Road, with one battalion at the Mitla Pass, on at Tassa, and one in the center of the northern sector. Thus, a total of 204 tanks were to be deployed between the canal and the Lateral Road: 74 in the northern sector, 61 in the central sector and 69 in the south, reinforced by some 12-114 artillery batteries and armored infantry companies. This force deployment program was designed to enable swift and flexible reaction to a variety of contingencies. Troop placement was calculated so that company-size reinforcements could rejoin every stronghold in the Bar Lev line within 20-30 minutes, a battalion within 30-60 minutes and brigade within 3 to 3-1/2 hours.

"Operation Dovecote" was not originally conceived of as a war plan nor as a response to a massive Egyptian attempt to cross the canal. At most, it was considered a basis for stopping "enhanced attrition" which might "snowball" into an all-out Egyptian offensive. However, Operation Dovecote itself "snowballed" and eventually came to be viewed as the response to an overall Egyptian offensive.

This change in status was not due to the lack of plans for war contingencies. Israel's original plan for defending the Sinai in case of full-scale attack was "Operation Rock," which demanded deployment of two reserve armored divisions in Sinai, backing up the regular division. The reserve divisions were intended mainly for a counterattack that would wipe out the crossing Egyptian forces and then cross themselves to the Western bank of the canal.[11] A critical assumption of this plan was that sufficient warning would be given to allow deployment of these reserve units.

Operation Dovecote effectively developed into the IDF's program for halting attacks at the Southern front. In contrast to the traditional IDF doctrine of using maximum available (regular and reserve) forces to block an all-out enemy offensive, it expressed a new conception in which even full-scale war could (and should) be halted by regular forces alone.

These conceptions extended beyond IDF war games and operative plans. Just before the war and even during the initial hours of battle, the General Staff continued to maintain that the Egyptian-Syrian surprise attack could be blocked by regular forces. The Agranat Commission's assessment of the Chief of Staff's responsibility declares:

> " . . . These assumptions were augmented by overconfidence in the IDF's ability under all circumstances [emphasized in the original] to repel an overall enemy

attack on both fronts with its regular forces alone, deploying its full troop complement for defense and proceeding rapidly to a large-scale counterattack for effective defense of the country. The Chief of Staff's activities during the period immediately preceding the outbreak of war reflected this line of reasoning: he was planning counterattacks, rather than concentrating primarily on shattering the projected impact of the surprise attack and on stopping the enemy through appropriate adaptation of battle plans and guidelines issued to the OC."13

Some IDF commanders exceeded even Operation Dovecote conceptions in their confidence regarding the ability of the IDF's regular forces (supported by the air force) to block the Egyptian attack without relying on reserve forces. Thus, the most serious accusation raised by the Agranat Commission against OC Southern Command Shmuel Gonen was that on October 6, he failed to deploy the regular division brigades according to the plans and orders he had received. Operation Dovecote called for deployment of two brigades in the front, while retaining the third in the Refidim region. For reasons that the Agranat Commission did not thoroughly clarify, the OC Southern Command decided to deploy only one advance brigade in the front, retaining two in the rear: [14]

" . . . up to 1355 hours, when the enemy opened fire along the entire front, the rear forces, which were to organize along that axis, had not yet begun to advance. Moreover, Command orders indicate that the advance force, too, had not been deployed alongside the canal in time; when fire was opened, some of the troops were far from their final line of deployment. When our armored forces began advancing, they encountered an enemy infantry ambush, which had already succeeded in seizing positions between our tanks and the water line and had also taken the ramps on the eastern side of the canal, which were intended to control the water line and beyond. Antitank and artillery fire was fired at our armored forces, disrupting their operation and hitting them hard."15

Actually, by midnight of the 7th, two-thirds of the division's tanks had been lost.[15a]

The OC Southern Command's decision to keep most of his troops in the rear was not based on lack of discipline of responsibility, but mainly on his desire to reserve most of the forces for a subsequent counterattack.[15b] According to Hanoch Bartov,

"At some level, between the OC Southern Command and the brigade officers, the term 'small dovecote' was born, by the eve of October 5th at the latest. The original plan now became 'extended' dovecote. This new notion envisioned moving as soon as possible towards a counterattack for which most of the force should be reserved."[16]

The assumption that an Arab attack could be blocked by regular forces was not limited to the Egyptian front. At 0550 hours on October 6, a dispute arose between Defense Minister Moshe Dayan and Chief-of-Staff David Elazar (Dado) regarding the extent of reserve mobilization demanded on the Northern front, considering the credible information that the war was to begin that evening. Excerpts from these discussions are cited by Bartov:

"Dado's premise was that if the war would open that evening and the attackers would 'here and there' succeed in penetrating it would be important to move as quickly as possible to a counterattack designed to destroy the Syrian army. The existing plan required the operation of three divisions in the Golan Heights front. Dayan: What is the difference between mobilization of these units in the evening—if the war actually opens—or now, in the morning? 'The difference is 12 hours,' said Dado. 'To a war that hasn't begun, the Chief-of-Staff wants to call up forces fro a counterattack?' questioned Dayan. 'To defend the Golan Heights I am ready to approve a call up for a counterattack only after the first shot.'"[17]

This difference of opinion was not based on the magnitude of forces required to block a Syrian attack-- on which it seems the two concurred – but rather on whether forces demanded for the counterattack should be called up before the war began. Instead of ordering an immediate partial call-up, the Defense Minister and Chief-of-Staff decided to submit the issue to the Prime Minister, thus losing two precious hours before the orders were finally issued.

On the northern front, unlike the southern, all troops were on full alert, reflecting general awareness that war could break out at any moment. The OC Northern Command, Chief-of-Staff, and Defense Minister all displayed anxiety over possible initial Syrian achievements (e.g., temporary conquest of Moshav

Ramat Magshimim) before the reserve mobilization, even if sufficient warning would be provided in time. Several days before the war broke out, the Defense Minister visited the Northern Command, following which additional armored units were deployed in the region.

On October 3, the Cabinet convened to discuss the possibility of a Syrian attack in the Golan Heights and the alert preparations that this would entail. Several hours before the meeting, the Defense Minister requested from the Chief-of-Staff an updated written record of enemy forces stationed in the Golan Heights front. This document, prepared by the Intelligence Branch, detailed the Syrian troops deployed throughout the front and subsequently proved to be very accurate. It indicated that some 750-850 tanks were deployed at the front. There were 600 in the first Syrian echelon compared with 250 during the last period of tension in May 1973. There were more than 550 artillery pieces, of which 370 were in the first echelon, compared with 180 in May. This build up was, at the time, evaluated by the Chief-of-Staff as preparation for an imminent all–out attack. There were also 31 anti-aircraft batteries in the region between Damascus and the front, in comparison to only two in that region in early 1973.[18]

The Defense Minister, Chief-of-Staff and the OC Northern Command realized that deployment of regular IDF forces in the Golan Heights did not constitute an absolute guarantee that the Syrians would not succeed in carrying out a "seizure." But they did not imagine that the concentration of Syrian troops facing the regular IDF forces would be capable of capturing significant portions of the Golan Heights, thus nearly attaining their operations goals and perhaps even achieving their war goals. In a lecture before the Engineer's Club in Tel Aviv on December 10, 1973, Dayan was quoted as saying:

> "I, as Defense Minister, did not evaluate the effectiveness and fighting of the Arabs, even when I knew in advance the quality of weapons they held and of the bridges they had prepared for crossing the canal. The types and combinations of weapons that the Arabs used in battle rendered their effectiveness greater than I had assessed based on available intelligence data and quantitative figures. It is true that we did

not foresee in advance—a week or two before Yom Kippur—that the Arabs would launch a major attack. However, we did see the gathering storm and reinforced the northern and southern fronts with armored forces accordingly, up to the point where the IDF and I knew that it would be necessary for us to hold out until the reserves were called up, both on the Canal front and in the Golan Heights. We assumed that these forces would be able to block an Arab attack until the reserves were drafted. I contend that there was neither indifference nor neglect."[19]

The prevailing evaluation in the IDF command just before the war was that all necessary steps had been taken to absorb an attack even with no advance warning whatsoever, describing the possible Syrian gains as follows: "They may penetrate the area, but will conquer neither settlements nor the entire Golan Heights. They might take an emplacement and advance up to a particular settlement, but we will be able to block and stop them, operating the air force and introducing more forces to decide the battle."[21]

The chief-of-Staff did not make his decision casually. These were well-formulated opinions within the General Staff, which Lt.-General David Elazar had adopted and expressed previously on similar occasions.[22] Long after midnight on Friday night, October 5, 1973, the night before the war broke out, he said: " . . . The tanks in the south (including armored brigades airlifted south at night), the 178 tanks in the north (including the Seventh Brigade) and the Air Force are on highest alert—we are ready for 24 hours."[23]

A polarized relationship exists between feelings of self-confidence and the value one attaches to early warning. The greater one's self confidence, the less the importance of warning. Before the Yom Kippur War, Israel's self-confidence was high. The General Staff believed that the Arabs could gain no decisive achievements, even with a surprise attack. This feeling was expressed by Lt.-General Elazar in an interview with the Hebrew daily Davar on January 26, 1973, summing up his first year as Chief-of-Staff: "I believe that the balance of forces in 1973 renders it impossible for Egypt to obtain any significant military achievements . . . If there is another military confrontation, our chances of winning and their of losing remain more or less as they had been in 1967.[24] The OC Southern Command at that time, Ariel Sharon, stated in a General Staff

discussion on the Eve of Passover (April) 1973: " . . . Another 1000 tanks to Egypt and another 500 to Syria will not presently endanger the security of the State of Israel nor its defensive capability in the territories we hold at present.[25] The above remarks were uttered before the war. After the essence of surprise prominently reflected the inverse correlation between self-confidence and value of warning. Several examples follow:

> Major-General (res.) Meir Amit: "We have developed a situation, position or approach of exaggerated self-confidence, a feeling of 'unparalleled might.' We have lived with this situation, derived pleasure from it and found excuses for our behavior. This feeling rests on two foundations: our own considerable might and underestimating the enemy's value and capabilities. This engendered feelings of confidence, which may be summarized concisely in but a few words: 'It simply cannot happen!'"[27]

Major-General (res.) Zvi Zamir:

> "There was a kind of preconceived consensus—not regarding intelligence but regarding ourselves. The prevailing theory was that the quantitative problem had been solved and that in contrast to what we had learned, quantity is no longer transformed to quality . . . We simply didn't believe that they were capable. Essentially, this were also their paratroopers with Sagger missiles on a hill—and I'll finish 'em off with two tanks!'"[28]

I do not conclude from the above description that this high self-confidence caused the IDF to rely on early warning in its war plans. What I do claim, however, is that the IDF believed that it would win the war even if this element in its war plans were not realized.

As far as we know, within the Ministerial Committee for Foreign and Security Affairs as well as in the informal but not less important "Golda's Kitchen" meetings convened by Prime Minister Golda Meir for discussion of security affairs [31]—the time of warning essential for IDF war plans had not been critically discussed.[32] Cabinet Ministers were not clearly informed that the IDF's ability to repel an Arab attack was contingent on 24 hours' warning, nor were they explicitly given any other timetable. Nevertheless, the prevailing government opinion was that the Israeli intelligence community's warning

system precluded the possibility of an Arab surprise attack. The Cabinet had extreme confidence in it being so.

Until the Six Day War, the issue of warning was a key component of IDF's security doctrine. IDF planning was based on provision of warning in order to execute a pre-emptive strike, an immediate counterattack or full deployment for defense. Following that war, however, Israel's strategic depth increased and its sensitivity to the danger of a surprise attack concomitantly diminished. Emphasis on warning as an important component of national security doctrine continued to appear in articles and speeches, but the IDF's strategic conception of war developments was no longer decisively dependent on the guarantee of a minimum warning time period.

C. The Effects of Brief Warning on IDF Deployment on October 6th

A common belief regarding the surprise of the Yom Kippur War is that the warning received on the morning of October 6 indicated 1800 as the time the war was to commence, while the war actually began some four hours earlier, at 1358. This has been used to explain the insufficient preparedness of the regular units of the Southern Command, as well as the late deployment of reserve forces.

Actually, on Thursday, October 4, 1973, Intelligence reviewed credible information on preparations for urgent evacuation of the Soviet advisors' families in Syria and Egypt, commencing that evening. According to this information, Aeroflot planes were already on their way to the Middle East. By Friday afternoon, October 5, the airlift was already on its way back to the Soviet Union.

That night, the High Command also received aerial photographs taken that day West of the canal, clearly revealing the Egyptian Army's offense deployment concentrations: a full complement of five Egyptian infantry divisions in emergency formation; some 1,100 artillery pieces along the front; crossing equipment and bridge accumulations all along the canal; infantry division tanks in firing positions behind the sand banks.

Until this point, the head of the Intelligence had strongly argued against interpreting Egyptian actions as preparation for war. Although still holding to this view, he recommended taking the necessary precautions.[33]

Actually, the chief-of-Staff preceded the Chief of Intelligence by one day in deciding to work according to the worst-case scenario. On the morning of October 4, Lt.-General Elazar cancelled all leaves on the northern and southern fronts, moved the Seventh Armored Brigade to the northern front, airlifted an additional armored brigade to Sinai and declared a state of "C Alert" for forces in the field (the highest level before war is declared), and full alert for instituting a general reserve call-up.

These measures were reported to the Prime Minister at a cabinet session on October 5th. Participants in this meeting, including ministers who were authoritative figures in military affairs (former Chiefs-of-Staff Dayan, Bar-Lev and reserve Mafor-General Yigal Allon), shared the General Staff's evaluation that even if a war were to break out, the means that the Chief-of-Staff suggested would suffice until the reserve call-up.[35] On this occasion, the Defense Minister informed the Prime Minister of his belief that war was unlikely, while assenting to all IDF preparations:

> "Except for the mobilization of reserves, everything was done. Generally speaking, Dayan is not concerned about the Egyptian front, whereas we are constantly concerned about the Golan Heights. In the meantime, we learned that sites indented for crossing at the southern front were taken. Dayan states with great confidence that measures taken on the Egyptian side indicate that it is a formation that will undertake a crossing with 100% certainty."[36]

As indicated above, Dayan then considered the Chief-of-Staff's measures to be sufficient: reserve forces, he claimed, would be used only after the war began. "We should not move troops until 'something real' happens." [37] Even on October 6, at the Cabinet meeting only a few short hours before the outbreak of war, Dayan repeated his strong opinion that the Chief-of-Staff's demand for calling up all reserve units should not be implemented before the actual outbreak of war. Instead, he repeated his position that the two reserve divisions that the Chief-of-Staff believed essential for the blocking stage were sufficient.[38]

An examination of the facts reveals an entirely different picture. During the early morning hours of October 5, the General Staff ordered an additional armored brigade dispatched to Sinai. Soldiers flew south on the night of 5-6 October, received tanks, and joined the permanent division. During the afternoon of Friday, October 5, the Commands were ordered to declare Alert C. At 2000, the Southern Command was instructed to

deploy troops in accordance with "Operation Ashur": on armored brigade along the canal, a second one between the canal and the Mitle-Giddi Passes and a third as a reserve near the division headquarters at Refidim. On Saturday morning, October 6, the OC Southern Command was ordered to deploy his forces in accordance with "Operation Dovecote," which, as indicated, became the defense plan for absorbing an all-out attack.

According to this plan, the reserve units positioned at the strongholds along the canal were to be replaced with regular army soldiers from elite units. There is no satisfactory explanation for the failure to carry out these troop exchanges. It was claimed that the warning period was too brief, yet this excuse is hardly convincing: the regular units could have been flown in and the exchange implemented that same night, just as armored brigades were flown in on Friday night.

Nor can surprise explain the fact that, as mentioned, the two armored brigades were at a considerable distance from the front at the outbreak of war, contrary to the plan. As a result, once the crossing began, less than one-third of the tank complement (91 out of 300 tanks) was deployed between the canal and the Artillery Road and from Baluza to the Mitla Road. Instead of the 24 tanks that "Operation Dovecote" called for covering a front of some 160 km. near the canal, there were only 3 tanks at the waterfront when fire began. It is not clear that an additional four hours would have affected this situation.

Nor does misspecification of the hour of attack have any decisive influence on Israel Air Force alertness, as the IAF had been patrolling Israel's air space since the early afternoon hours. At a 1200 Cabinet meeting on October 5,[39] Justice Minister Y. S. Shapira asked: "What will happen if the enemy decides to start the war even earlier?" Defense Minister Dayan replied: "That's the most relevant question raised at this Cabinet meeting. The air force has already been patrolling since the afternoon hours to preempt such a development."[40]

There is no doubt that failure to call up the reserves as planned contribution to serious problems in equipping, staffing, and introducing these units into battle. However, despite this brief warning, reserve detachments reached the northern and southern fronts within 24 hours of the outbreak of war, conforming to original IDF reserve mobilization plans.

How did this happen? The main mobilization occurred on Yom Kippur, the only day of the year during which daytime call-up is as effective as nighttime call-ups, since most Israelis are at home or in the synagogue. Thus the potentially adverse effect of brief warning on the reserve call-up process was counteracted by an especially rapid call-up, proceeding at twice the pace assumed in mobilization exercises. On October 7, the Sharon and Adan divisions in the south and Peled's division in the north had already been mobilized, even though not to their fullest etent.[41]

Finally, we should examine the claim that the Egyptians and Syrians would have retreated from launching their attack if early warning had been accepted and Israeli forces deployed. The memoirs of General Saad-e-Din Shazli, Egyptian Chief-of-Staff during the Yom Kippur War, emphasize the assessment of Egyptian intelligence that, despite the Egyptian deception plan, Israel would have at least three days' warning; there was even a high probability that they would have 15 days' notice. Indeed, the Egyptian general Staff did not consider surprise as a necessary pre-condition for attack. The Egyptians planned a fierce crossing operation, estimating their casualties in bridging the canal and taking the Bar-Lev Line at some 20,000 men. Their achievements surprised the Egyptians as well.[42]

The primary test of early warning is whether it provides sufficient time for implementing predetermined plans for thwarting an adversary's attempts at surprise—and not what is considered in hindsight as the necessary time. From this perspective, the Yom Kippur surprise cannot be equated with warning failure.

Rather, I believe; the primary source of the surprise was deep-seated misconceptions in Israel's perceptions about itself in relation to its "environment." Before considering the nature of these misconceptions, we need to ask why Israel's military failure during the early stages of the Yom Kippur War is so widely attributed to warning failure. One reason is the total surprise that the war posed for an Israel public. Reserve soldiers, called to their units, simply refused to believe what they were told, that war was to break out within a few hours. Soldiers along the Bar Lev Line, too, did not imagine that they would bear the brunt of an attack that day. Observations of the activities taking place some 150-200 meters from them, at Egyptian positions on the Western bank of the Suez Canal, provided no hint of the impending war. On the contrary, after the war, Israel

soldiers reported that on the morning of Yom Kippur, Egyptian soldiers dressed in undershirts were seen sitting contentedly on the battery.

Commanders of the Bar Lev Line strongholds received their orders to be on full alert only after 1200 on October 6. These orders, too, were not interpreted as an indication that war was to break out within less than two hours. Rather, the commanders thought that artillery and tank fire was liable to commence at 1800. Such incidents were hardly extraordinary or unfamiliar on the canal line, despite the long lull since the end of the War of Attrition. The code word "Dovecote," which from this point of view meant immediate operation of the stronghold commanders along the canal only at 1430, i.e., after the war had already begun.

Once the first news of developments at the respective fronts began to circulate—during the evening of October 6 and more so on the following morning—feelings of shock over Syrian and Egyptian military achievements and high Israeli casualties.

Public declarations by officials, generals, and politicians in Israel from the end of the War of Attrition up to the Yom Kippur War sketched an encouraging picture of the national security situation. These expressions of confidence fostered powerful trust in Israel deterrence, which was thought to vitiate all possibility of the Arab states daring to implement their threats of another military round against Israel. The Israel public was convinced of the low probability of war and of the IDF's ability to crush the Arab armies if they indeed embarked on such a military "adventure." The sudden refutation of these conventions created a feeling of shock and with it a desire to find a reason or factor on which to pin the blame. An obvious "scapegoat" was the failure to provide adequate warning.

By contrast, senior political and military decision-makers made no mention of "surprise" or "intelligence failure" during the first days of the war. For example, during the afternoon of October 6, 1973, when the situation in the battlefield was still unclear, top defense officials did not attribute decisive importance to the warning period and its results. The following description is from a well-informed Israeli correspondent.

> "For some time after the outbreak of war, in various conversations, the Defense Minister did not sound surprised. 'The number of tanks we have today in Sinai and our air superiority suffice for us not to be concerned over the outcome

of war,' said Dayan, who added: 'I cannot define myself as pleased with the situation, but I'm also not worried about what's happening to Sinai . . .' Although the numerical ratio of tanks in the north was not as good as the one in the south, Dayan declared: 'All in all, they [the Syrians] have lost the battle.'" [43]

At a press conference on October 8, the Chief-of-Staff declared:

> "This war broke out at the initiative of Egypt and Syria. It began with a coordinated, simultaneous attack by the Egyptian and Syrian armies. We were organized through the regular army and were on full alert."44

The attribution of responsibility to warning failure came only after the battlefield situation was clarified.45

D. Was the Yom Kippur War a Chain of Situational Surprises?

Early warning should not only predict an event but also describe the adversary's plans and means of attack. A warning may be of little use if it contains only vague and misleading ideas about the specifics of the attack. A successful surprise works on all these dimensions, not only the time factor. In equating surprise with warning failure, Wohlstetter, for example, is quite explicit about referring to its broad context, documenting American intelligence failures in all these dimensions.

Immediately after the war, Israelis were accused of being surprised on many issues. However, closer examination of these issues shows that Israel had advance knowledge of most factors, in some cases with tremendous accuracy. These included Egyptian war plans and the size of forces to be engaged in offenses. Israeli war games, training, defense, and counterattack plans were, in fact, based on this knowledge.[46] Moreover, Israel followed the Egyptian and Syrian military exercises very carefully, observing their troops training in implementation of these plans. Israel Military Intelligence possessed considerable information on Egyptian bridging equipment, preparation of zones to be crossed, and bridge-building procedures. Indeed, Egyptian exercises in bridging and crossing the "Great Bitter Lake" in the Suez Canal were filmed by the Israelis and used as part of the training program of many IDF units. Intelligence and the IDF in general also knew about what was considered by the Egyptians as one of their technological surprises of the war—using water cannons in order to break through the soil batteries constructed by the IDF on the east bank of the canal.

On October 6, at 11:00 a.m., the final war plans were presented to the Defense Minister. According to standard procedure, the Chief of the Intelligence Branch opened the discussion with a presentation, describing its evaluation of the Egyptian war plans.

> "The Egyptian attack will open with an artillery barrage and deployment of aircraft against targets in Sinai, followed by a crossing. Five or six bridges will be erected and only three of them, opposite roads leading to the Sinai passes—will actually be used. At the first stage, efforts will be made to seize territory at a depth of about 10 km. When the Egyptian Army reaches this depth, as indicated in the plan, it will attempt to hold on and entrench itself; subsequent moves will be determined according to the results of the first stage. SA-2, 3 and 6 surface-to-air missiles will ensure defense from air attack. Sharm a-Sheikh will be bombed from the air and then invaded by commando units who will attempt to conquer it."47

That this was an accurate description of what indeed occurred several hours later indicates how well the Egyptian plans were known to the Israelis.

Another widely cited surprise in the war was use of Sager anti-tank missiles by Egyptian and Syrian infantry soldiers, causing tremendous casualties. Yet the existence and operation of these missiles by the Egyptian and the Syrian armies were well understood. After the Six Day War, the Egyptians sought to reduce the superiority of Israel armored troops in the Sinai Campaign and the Six-Day war. The Sager missiles were their solution. During the late 1960's and early 1970's, the Egyptians and Syrians stocked up on large quantities of these personal anti-tank missiles. During the War of Attrition, the new tactics were tested against Israel armored vehicles. The IDF Intelligence Branch followed this development closely and warned of the existence of these missiles. Technical data were accumulated, operating methods studied, and a detailed report distributed among IDF units, including not only technical information but also tactical operational procedures.

In the winter of 1972-1973, three major border incidents occurred on the Syrian front. In the first incident, the Syrians suffered numerous losses, especially from Israel tank fire. In the second, the Syrians fired a barrage of 40-50 Sager missiles and succeeded in destroying an Israel tank for the first time since the Six Day War. The IDF

rapidly learned the lessons of the second battle; Major-General Rafael Eitan, then OC Northern Command, ordered construction of special external armor plating for the Israel tanks to neutralize the efficacy of Sager missiles in future incidents. Consequently, during the third incident, which occurred several days later, despite the firing of numerous Syrian missiles, no Israel tanks were hit.[48] The Israel Armored Corps Research Branch, which operates as part of the Armored Corps Command, distributed instructions among armored corps units, describing defensive tactics against personal anti-tank missiles. However, this technique was not sufficiently practiced.

Another technological development that is claimed to be a surprise is the Egyptian surface-to-air anti-aircraft missiles. The Egyptian Army was equipped with some surface-to-air anti-aircraft missiles even before the Six-Day War. Although the Egyptians deployed about 30 batteries SA-2 and SA-2B missiles during this war, the Israel Air Force did not consider such missiles to represent a new substantial threat. During the War of Attrition, the Egyptians operated several new types of missile batteries, namely the SA-2C and SA-3. Indeed, the only new type of missile that appeared in the Yom Kippur War was the SA6. However its acquisition, too, was well known by Israel.

The change in the effectiveness of Egyptian air defense came from the combined deployment of these missile types and the large quantities of ZSU-23 radar-controlled anti-airguns, which provided reciprocal coverage for the Egyptian anti-aircraft missile system and made it difficult to find breaches in its radar and firing coverage. Several days before the War of Attrition ended in summer 1970, the IAF lost five planes attempting to attack the Egyptian missile system. This closing note of the War of Attrition was deeply ingrained in the awareness of IAF commanders and pilots. During the three years between the end of the War of Attrition and the Yom Kippur war, destroying these systems became a key priority in Air Force training; new electronic means and tactical maneuvers were deployed to cope with missiles. Hence, there is no validity to the claim that missiles constituted a surprise for Israel in the sense of lack of knowledge.

Alongside the SA-6 missiles, Egypt operated only one new weapon in the Yom Kippur War—SCAD surface-to-surface missiles. Here again, Israel possessed considerable information regarding their acquisition and probability of use. The use of these missiles had only a marginal effect on the war.49

Another claimed surprise was the increased quality of enemy fighting. After the war, commentators and senior officers claimed that IDF troops were surprised by the Arabs' night fighting abilities. Up to the Yom Kippur War, the IDF was renowned for its infantry's superb night fighting abilities, whereas Arab armies were perceived as fearing night battles. Furthermore, night fighting demand high-level leadership, teamwork, skill in weapons operation, experience in nighttime navigation, and considerable personal commitment—features the Israelis believed to be characteristic of their own army and lacking in those of Egypt and Syria. According to these claims, here lay great differences between the Six Day War and the Yom Kippur War. In the latter case, the IDF barely implemented nighttime operations,[50] whereas the Egyptian and Syrian armies did.

In fact, Egyptian units had already engaged in night operations as early as the War of Attrition, when infantry Egyptian units undertook numerous night raids, some of them up to the Israel secondary defense line situated along the artillery road about 12 km. east of the canal line. During the War of Attrition, the Egyptians and Syrians also used various night vision devices, some of which were captured by the IDF and examined by the Israeli Technical Intelligence. It was even known at the time that the Egyptians attached such high priority to night warfare that they relied not only on Soviet night vision equipment, but purchased vast quantities of such devices in the West, especially from Britain. Intelligence had detailed information of efforts made by the Egyptians and the Syrians during the years preceding the Yom Kippur War to acquire night vision equipment and train troops in its use. This information was distributed regularly to IDF staff and field commanders alike.

The IDF is also said to have been surprised by the Arab soldiers' skill in operating sophisticated Soviet military equipment, even though the Soviet weapon systems with which the Syrians and Egyptians were equipped did not demand as high technical skills as did Western systems. In retrospect, this observation, too, should not have caused a surprise. The Egyptians acquired considerable experience in operating Soviet weapon systems in the War of Attrition.

Finally, many military experts, including Israelis, claimed that Israel was surprised by the Arab soldier's dedication and esprit de corps, which sharply contradicted the image acquired in the Six Day War. Again, there was no justification for such

surprise. In previous wars, the quality of the Arab soldier prevailed primarily in defense. Battles such as Hulikat in the War of Independence (1984), the defense of the Abu-Ageila region during the Sinai Campaign (1956), and the defense of the A-Jirdi region in the Six Day War (1967) clearly demonstrated these qualities. Devotion and willingness to sacrifice and suffer were demonstrated by Egypt at the last stage of the War of Attrition, when the Suez area became a battlefield and a million refugees from the Suez Canal region escaped the fire and converged on Cairo, as well as when the IAF bombed the Delta region. Deep bombings intended—among other things—to undermine the Egyptians' fighting spirit and civilian morale, failed to achieve this objective. Some Israelis hoped that deep bombing would encourage the Egyptians to bring down Nasser's government. The reverse was achieved, however, as Egyptian support for Masser increased.

These examples are, therefore, incongruous with the definition of the Yom Kippur War Surprise as a chain of situational surprises. Israel possessed advance information on each such "surprise."

To summarize the arguments in this chapter, I will cite Lt. General (Res.) Haim Bar-Lev who, as Chief-of-Staff during the War of Attrition, was responsible for the concept and the building of the Israel defense line along the canal and who, during the Yom Kippur War, as a member of the Cabinet Defense Committee, was sent to the Southern Command on behalf of the Chief-of-Staff and the Prime Minister to serve as a "special advisor." In a press interview soon after the end of the Yom Kippur War, he said:

> "There were no weapons systems used in the battlefield of which the IDF was unaware—for which there were no detailed booklets on their application. This applies to the bridges used by the Egyptians to cross the canal, the ladders (I was them training with ladders during my term as Chief-of-Staff), aircraft, and rockets . . . We knew about all the anti-tank missiles. During the War of Attrition, three of our tanks were hit by those missiles. There are intelligence booklets that describe these missiles fully. That was not the essence of our surprise, and our error does not emanate from here. Not from the enemy's might."[51]

Thus, Israeli Authorities were aware of most detailed components of the upcoming war, and yet they were surprised. But it was a cascade of surprising revelations about themselves.

Thus, it was not that the Arab soldiers suddenly became night fighters, but that the war provided the Israelis with a point of reference showing how they, who had considered themselves as excellent night fighters, ceased to conduct daring night operations. It was also not that the "Sagar" personal anti-tank missiles were so surprising, but that the Egyptian infantry soldier would stand and fight successfully against Israel tanks, that Arab humans could overcome Israel's steel.

The answers to the questions why and how the Israelis were surprised cannot be found within the issues that the early warning systems were supposed to detect and report in advance, nor by any other situational surprise.

E The Misconception's Explanation

I have argues that the Yom Kippur surprise cannot be explained as an early warning failure, nor as any other form of situational failure in directing signals and correctly distinguishing them from noises. The "signal versus noise" paradigm still has another line of defense, the "misconception" explanation. According to this paradigm's logic, misconception can be understood as noise in its most comprehensive interpretation. The "misconception" that is meant to explain the Yom Kippur surprise was defined accurately by the Agranat Commission, and has become widely accepted:

- Syria would not embark on an offensive against Israel unless it reached an agreement with Egypt to launch the attack simultaneously on both fronts.
- Egypt would not go to war against Israel unless it had assured itself of the air ability to strike Israel depth targets, especially its major airport, thus paralyzing the air force. As long as the Soviets continued to refuse Egypt's requests for necessary aircraft, Israel air force superiority would provide an effective and decisive deterrence.

Israel Intelligence was informed of Egyptian intentions to initiate a limited war, one similar to the War of Attrition, only this time including an attempt to capture and hold some Israel strongholds, thus undermining Israel's status quo policy.

In Intelligence's annual analysis for 1972-1973, a review of war threats decribed a possible Egyptian assault aimed at conquering a small strip of territory on the eastern bank of the Suez Canal. This scenario was considered operationally feasible despite Egyptian air force and armor inferiority. The Egyptians had a wide and dense ground-to-air missile employment along the Suez Canal, which accorded them a 20 km. Missile-protected umbrella on the eastern bank of the canal. However, the Intelligence review considered this scenario as only one option and estimated the political option as the most logical for the Egyptians to select.

A limited war seemed less feasible to Israel because the Egyptians were well aware of the high probability that once limited war started they would not be able to control its magnitude. Israel war plans were to react with a broad and decisive war. Israel had also declared publicly that a war of attrition would not be tolerated and that the reaction would be a decisive war. Thus, they believe that they had deterred the Egyptians from initiating a full-size war, as well as from a limited war.

Actually, Israel had a very reliable source of information, which confirmed that their deterrence was credible. The validity of this information was checked several times. Only a few days before the war Israel intelligence collected first-hand information that assured it once more that the Soviets had refused an Egyptian request to supply them with aircraft that would enable them to attack Israel depth targets.

> Although it is broader than any other account based on early warning failure cause by confusing "noises" with "signals," the misconception explanation is still of the same basic type. It, too, is a signal –versus-noise explanation and, as such, it can be based on solid evidential ground: it is true that Israel failed to detect the information produced in the secret meetings in Damascus in which agreement was achieved between Syria and Egypt on attacking Israel simultaneously on two fronts. Israel also failed to see that the Soviets and Americans were driving Sadat to despair, the Americans because of their prolonged reluctance to pressure Israel to negotiate the status quo situation with less that a promise of a peace agreement, the Soviets by denying the ability to return Sinai to Egypt by military means. Israel misread these signals because it failed to understand that Sadat was willing

to sacrifice a lot for even a very small military achievement, which could then be used as leverage in the political negotiations that followed the war.

Although far more comprehensive an account that any other signal-versus-noise explanations, the misconception explanation is still too narrow, and it leaves the essence of the surprise unexplained.

The essence of Israel's surprise in the Yom Kippur War was sudden discoveries about themselves, which came as a cascade, each one wider and with deeper meaning than its predecessor. The cascade of surprising self-revelations went on even after the war, to include subjects beyond the military and defense realms. The first revelation of Israel's surprise in the war was that it could not conduct a decisive war. That meant a fundamental problem with its political-military doctrine. These revelations became evident immediately after the first hours of the fighting; they were astonishing and shocking.

The very fact that Israel intelligence failed to adopt the misconception does not explain the intensity of Israel's shock, nor the devastating military situation in which it found itself during the first days of the war.

On October 7th and in the following days when the news from the battles became public, Israelis were shaken by the collapse of faith in their leaders' repeated assurances that the Six Day War victory had consolidated Israel's security, transformed Israel into a regional power and assured a long-term perpetuation of its political strategic status.

It took some more time before they realized that what they had conceived of as the IDF's qualitative superiority might not be enough to defeat the Arabs' quantitative superiority and that, in fact, their qualitative superiority was questionable. They were surprised when it emerged that the IDF lacked the power to decide a battle on two fronts simultaneously and had to come to terms—at least temporarily—with Arab military achievements on one front to tip the balance on the other. All these shockingly revealed the limits of Israel's power. Although Israel finally won the war militarily, the realization that Israel's limited strength constituted an insufficient response to Arab threats undermined Israel's

self-image in the context of the Arab conflict, its past military achievements and future course.

Only months after the war, Israel surprisingly discovered that they and their leaders misunderstood Egyptian war goals. Israelis' images of themselves in relation to their adversary had been inseparable from their understanding of their adversaries' aims. The problem lay in the Israel doctrine, which explicitly stated that the Arab's objectives are and will be to destroy the state of Israel. In this context, information about the enemy, accurate as it was, had very little relevance in creating a more complex understanding of the national "self," nor did it support an understanding of the "other" in relation to them. The shock of the Yom Kippur War, however, succeeded in raising questions.

Ironically, it is these revelations—and those yet to appear—which became the cornerstone for the peace process.

Chapter 3 Notes

1. Agranat Report 1974. Commission of Inquiry—the Yom Kippur War: Partial Report. Submitted April 2, 1974. English translation: Jerusalem Journal of International Relations, 4, No. 1, 1979; 70-90.
2. In Israel, Military Intelligence is in charge of national evaluation.
3. Agranat Commission Report p. 19 Am Oved Tel Aviv 1975 (Hebrew).
4. An interview with Dov Goldstein (reporter) Maariv. November 2nd, 1973. (Hebrew)
5. Roberta Wohlstetter: Pearl Harbor- Warning and Decision (1962).
6. A. Ben Zvi "About the surprise: A comparative analysis of four Conceptual Framework for the Analysis of Surprise Attacks" World Politics, 28 (April 1976) pp. 381-395. M. I. Handel "Perception, Papers on Peace Problems No. 19. The Hebrew University of Jerusalem 1976. A. Shlaim "Failures in National Intelligence Estimates: The Case of the Yom Kippur War" World Politics Vol. 28 (April 1976) pp. 348-380; "The Yom Kippur War and the Inevitability of Surprise," International Studies Quarterly, 21(September 1977), 461-501; Janice Gross Stein, "'Intelligence' and 'Stupidity'

Reconsidered: Estimation and Decision in Israel, " 1973 Journal of Statistical Studies, (September 1980), 147-78; Perlmutter, A., "Israel's Fourth War, " October 1973, Political and Military Misperceptions, pp. 434-460 Orbis Vol. 19.

7. Similar definitions in T. G. Belden "Indications: Warning and Crisis Operations." International Studies Quarterly Vol 21 no. 1 (March 1977) pp. 181-198. K. Bordin "Surprise Attack: The Case of Sweden." The Journal of Strategic Studies, Vol. 1 no. 1 (May 1978) pp. 98-110.
8. In writing about the Yom Kippur War, I was confronted with a serious problem of quoting sources. Part of the information on the war is still restricted for security reasons. Some vital information was revealed in books and articles written by people who played central roles in the war or authors whom these people supplied with such information. It is only natural for these sources to emphasize certain facts and ignore others. This study is also based on many discussions with Israel Ministers, government officials at the time, senior officers in the IDF and members of the Israel intelligence community. These discussions help in clarification of some issues and examination of others. Thus, I believe the account presented here to be correct, even though all of its sources cannot be documented at this time.
9. The description of the exercise appears in Bartov's book, Dado: 48 Years and 20 Days, part I, pp.216-219 (Hebrew) (1978).
10. Ibid p. 257

10a. The road along the Baluza-Tassa line.

11. The essence of "Operation Dovecote" and its integration in "Operation Rock" is explained in A. Adan's book, Two Banks of the Suez Canal (1979).
12. One such opportunity occurred in spring, 1973, at a meeting with high-ranking officers in the Sinai.
13. Agranat Committee Report.
14. Ibid, p. 40.
15. Ibid, p. 42-43.

15a. See Martin Van Creveld, Command in War (1985) p. 205.

15b. At the time, Gonen claimed that he refused permission for the armor division to move forward, according to the plan, to prevent what the Egyptians may have seen as a provocation, when war was not yet certain and such an act was unnecessary.

C. Herzog in his book The War of Atonement (London, 1977), p. 53, suggests the possibility that Gonen acted on instructions from above. It is evident, however, that the Agranat Committee found no evidence to support such a claim.

16. Bartov p. 31.
17. Ibid, p.14.
18. Bartov part A p. 305. (Hebrew).
19. Haaretz – Daily Newspaper Dec. 30th 1973. (Hebrew)
20. Shlomo Nakdimon, Yediot Acharonot July 12th, 1984.
21. Thus, for example, at a General Staff Meeting, just prior to the three-day New Year holiday in September 1973, the Chief-of Staff stated that there was a danger of the Syrians taking advantage of the holiday to act on the Golan Heights. He declared that during the holiday period Israel would have a "100 tanks against the [Syrians'] 800—that is enough." Bartov part A p. 294. (Hebrew)
22. Ibid, p. 323.
23. Davar – Daily Newspaper Jan 26th 1973. (Hebrew)
24. Quoted in Bartov Part A p. 243.
25. In an interview with Dov Goldstein, Maariv Nov 9th 1973.
26. Bartov part A p. 236.
27. According to a discussion with Israel Tal regarding this research on April 23, 1979.
28. In Israel Cabinets up to Golda Meir's term of office, the Ministerial Committee for Security Affairs included only a limited number of the Cabinet Ministers. Subsequently, however, coalitionary exigencies demanded its extension to the entire Cabinet. The forum thus became too large and

cumbersome and the Prime Minister frequently consulted only with Ministers whose advice and expertise she valued most regarding security affairs. At times, the remaining Committee members convened subsequently to approve policies and decisions drawn up by this smaller, informal forum.

29. According to conversations that I held in 1979 with then- Deputy Prime Minister Yigal Allon, who participated in the significant number of the information consultations, and with Moshe Kol, then a Cabinet Minister and a member of the Ministerial Committee for Security Affairs.
30. Bartov Part A pp. 314-316. (Hebrew)
31. See: ibid pp. 318-319: Moshe Dayan: Stepping-stones – Autobiography pp. 573-574; Golda Meir – My life, pp. 307-308. (Hebrew)
32. Shlomo Nakdimon Yediot Aharonot July 19th 1974. (Hebrew)
33. Bartov part A p. 318-320.
34. After the war, there was some amazement expressed regarding why the Chief-of-Staff and the Defense Minister did not immediately call up those two divisions. Instead, he delayed summoning them by several precious hours, submitting the issue for decision by the Prime Minister.
35. Besides the "trio"—Golda Meir, Moshe Dayan and Israel Halili—only Cabinet Ministers then in Tel Aviv were summoned to the meeting Friday afternoon, October 5. From about 1000 on that same day, all Cabinet Ministers were notified by telephone to attend the meeting of October 6. As most Ministers had not participated in the previous day's meeting, they had no idea of what was happening until they arrived at the cabinet meeting at 1200, i.e., less than two hours before the war broke out. All the important decisions, including the scope of reserve call-up and discussion of a pre-emptive strike, were taken without their participation. In a conversation on July 29, 1979, then-Minister Moshe Kol informed me that the telephone rang at 1000 on that morning and the Cabinet Secretary asked him to come to Tel Aviv. Kol asked him how urgent it was and whether he should start out at once. The Cabinet Secretary responded that there was no emergency. On July 31, 1979, then-Deputy Prime Minister Yigal Allon told me that he had been at his kibbutz,

Ginnosar, that Saturday. When he received notice about the urgent Cabinet meeting, he asked for a helicopter, but was told that he had enough time to get there by car.

36. Shlomo Nakdimon Yediot Acharonot August 2nd 1974.
37. In a conversation with the author on July 31, 1979, Yigal Allon assessed the situation as a "Yom Kippur miracle; had the Arabs started the war on another holiday, when Israelis tend to go visiting and traveling, the consequences of the war were liable to have been far more severe.
38. Saad-a-Din Shazly (Farik) – The October War, memories – Al Watan, Al Arabic, Paris 1980 pp. 21-20 also Samual Bar "The Yom Kippur War – The Israel Intelligence Failure in Arab Eyes." (Hebrew)
39. Shlomo Nakdimon Yediot Acharonat August 2nd 1974. (Hebrew)
40. Maariv Oct. 9th 1973. (Hebrew)
41. I have no intention of claiming that placing the blame for difficulties and failures in the battlefield on warning failure was deliberately planned to silence public criticism by diverting public outcry towards intelligence.
42. Lieutenant Avi Shai: "Egypt towards the Yom Kippur War: Objectives and Operative Plans." July 1976: 15-38. The article details planning information. The author refers to a broad range of sources including documents that the IDF found in the war. (Hebrew)
43. Bartov, Part b, p. 28.
44. Herzog: The Day of Atonement War 1975. pp. 67-ff (Hebrew)
45. The deterrence effect of the SCAD surface-to-surface missiles has not yet been clarified; to what extent did the presence of the Egyptian missiles, even if not deployed, deter the IDF from attacking deep targets in Egypt? It should be noted, however, that Israel attacked targets in Syria's rear after the Syrians fired the same, less effective Frog missile on the Jezreel Valley.
46. Nevertheless, the accepted view that the IDF did not carry out any night activity during the Yom Kippur War is incorrect. At the southern front, on the night of October 6-7, several night attacks were implemented at the battalion level in an attempt to infiltrate emplacements and prevent crossing; on the

night of October 9-10, the Shaked battalion penetrated the "Budapest" emplacement; the advance of Brigades 14 and 27 to the water line and the crossing were carried out on the night of October 15-16; Area 42—the Chinese Farm—was swept in a night activity by Battalion 890 on the night of October 16-17; missile boats were brought to the canal on the night of October 16-17; the advancement of Brigades 401 and 464 to Adbaya was carried out on the night of October 23-24, together with breaking through the Egyptian formation. On the northern front, the conquest of Tel Shams by Brigade 316 took place on the night of October 13-14.

We must also beware of exaggeration in describing Egyptian and Syrian night fighting ability in the Yom Kippur War. The only significant operation carried out by the Egyptians and the Syrians at night was the continued crossing and the attack that began on the afternoon of October 6. The few nighttime commando roads were of small scope and limited significance.

47. An interview with Dov Goldstein, Maariv, November 2nd, 1973. The ladders were used to climb the banks of the canal and over the brims of the emplacements.

Chapter 4: The Evolution of Fundamental Surprise

A. The Israeli Defense Doctrine and Structure

The unique history of the creation of the state of Israel, combined with its vivid memory of the Holocaust and the imminent fear of an Arab attack aimed at eliminating the young and fragile state, made defense the most critical feature of Israel's fundamental thinking. Other dimensions of self-understanding such as creating a homeland for the Jewish people in the Diaspora, absorbing big waves of immigration to the state and creating one nation from them, fortifying the economy, establishing high technology industry, and even educating the new generation—all those were conceived in terms of their contribution to defense. Therefore, the doctrine that evolved in Israel's reality of the 1950's encompasses a broader and deeper meaning than what is common in other countries.

Israel's doctrine confronts a wide range of questions regarding how the society viewed itself in relation to its hostile environment and how Israel society can with stand and win a continuous conflict while simultaneously building a strong unique Jewish democratic state.

Israel's security doctrine, formulated after the War of Independence, [1] contains the following assumptions: [2]

The Israeli-Arab conflict is unique in its intensity, since the goal of the Arabs is to eliminate the State of Israel. This goal is shared by all Arab is to eliminate the State of Israel. This goal is shared by all Arab countries in spite of the rivalry among them. There is no breach in the wall of hatred and there is none to be expected in the near future. In this view, all that Israel can obtain in war is preventive. The greater the Arab defeat, the more years of "peace" there will be between "rounds." These years should be used to continue Israel's economic growth, strengthening social institutions as well the military. Time is in Israel's favor. It is an important element in determining its chances for survival and solution of the conflict. The continuous strengthening of the State of Israel and the Arabs' continuous failures in wars would have a cumulative effect. Eventually, perhaps over the course of generations, the Arabs would realize that Israel could not be defeated and acknowledge its existence.

The myth of the undefeatable Israel Army is a central element in this conception. To maintain it, Israel must accomplish decisive victories in all wars. Less than a decisive victory would, in fact, is a moral victory for the Arabs, providing an incentive to challenge Israel's existence with another war.

Another argument for short and decisive wars has to do with the realization that Israel cannot afford a large regular army. Along call-up of the reserve can paralyze the economy. Decisive victory was also needed to prevent the Arabs from generating international pressure to end the war in a favorable situation. Therefore, the doctrine called for a short, decisive war, aimed at causing the adversary a quick defeat, maximizing the destruction of its army, capturing some of its territories in order to force a quick cease-fire, and having "cards" for the negotiation after the war.

The army was built and trained to move the battle quickly to the enemy's territory, maneuver, and concentrate forces in the critical battles, thus gaining a local

quantitative superiority in spite of its general quantitative inferiority; to maintain strategic initiative from the first stage of the war; to deny the enemy the opportunity to drag the IDF into a situation where it would have to perform defensive battles for which it was not suited; to knock the enemy off balance.

Israel's doctrine had direct implications on the structure of the Israeli army. Intelligence, the air force, and the armored corps were given priority. The first was expected to provide the early warning time needed for reserve call-up and deployment. The two others were essential for enabling the small regular army to hold on until the reserves were deployed and for achieving a rapid, decisive victory with their combined firepower and maneuverability.

To accomplish these aims, Israel's doctrine required an immediate and fully capacitated release of military energy from the moment the war began; it also called for the political level to refrain from considerations that would limit the military once the war had started. These elements were: Mobilization of maximum power (including reserves at the greatest speed, initiating a preemptive assault, taking the strategic offensive from the very beginning, and preventing a situation where the IDF would be compelled to spread out its forces for defense.

Israel's defense doctrine assumes political goals that do not contradict or limit the full, swift expenditure of force in war. Other elements of national defense, in its broader meaning, such as international support and economic backing, although by themselves important, still should not deter the execution of the strategic war plans and the IDF's freedom to pursue its doctrine in war.

Finally, a less tangible, but no less important, element in Israel's doctrine is the national consensus over defense issues. Although Israel is an "open" society with a wide range of opinions on most issues, defense issues are beyond those debates. The feeling of being besieged by powerful enemies evolved into a strong feeling of consensus, and this consensus became an important source of national strength.

In war, Israel's doctrines relied on the willingness of commanders at al levels to be personally responsible and dedicated in fulfilling their missions with self-reliance and self-initiative. It demanded a high level of mutual trust and concern between all levels of command, high regard from human factors as the key to success in war, and command by

mission objectives rather than by rigid adherence to plans. Detailed plans are important, but so are initiative and creativity in exploring new unexpected opportunities that arise in the battlefield.

Israel's doctrine had two main structural advantages: simplicity and a high degree of internal coherence. In it, no basic contradictions exist between political goals and military objectives from the top of the political pyramid in the prime minister's office, through the ministry of defense, to the general staff and the army. The goal of decisive victory subordinated political considerations to military necessities.

Israel's foreign office was not designed to have its own defense policy capable of challenging that of the Defense Ministry, as does the state Department in the United States. The Israel Foreign Ministry did not even have an autonomous intelligence estimation organization, similar to the State Department Bureau of Intelligence Research (INR). It's "research department" had no access to classified information gathered by the "Mossad," the Israel CIA, and military intelligence—the most important body in Israel's intelligence community. Its main function was to serve Israel's diplomatic need for public relations background data and analysis.

The Prime Minister did not have at his disposal his own research or estimation mechanism, as the President of the U.S. does—the National Intelligence Office (NIO)—to provide "national estimation." The Mossad, which is directly under the authority of the Prime Minister's office, functions primarily for information gathering and 'special operations." Before the Yom Kippur War, it did not have a research department capable of producing its own national estimates. The military intelligence organization has a monopoly on both military early warning and national estimates. The logic of this arrangement was that, in Israel's reality, one cannot and should not separate military analysis an evaluation. As such, it enjoys great respect.

In contrast to Ben Gurion's stress on separating generals and national politics, and his insistence that no military officers be present at government consultations on political-defense issues, Levi Eshkol and Golda Meir's cabinet meetings were attended by the Chief-of- Staff and the Head of the Military Intelligence whenever security issues were discussed.[3] Israel's generals were highly regarded and, when retire, could expect prestigious political positions. On the eve of the Yom Kippur War, three

ministers who were former generals and two generals in active service who frequently participated in the Cabinet defense discussions and decisions were present.

In retrospect, it appeared that the Six Day War was a turning point toward a rapid increase in the defense organization. Its prestige as well as its power were at their peak. In the aftermath of the War of Independence and the Sinai Campaign, there was a significant decrease in the national investment in defense. After the War of Independence, defense expenditures dropped to between 5 and 6 percent of GNP; the size of the army decreased to fit the new defense budget, and most human resources, including many high-level commanders, left the regular army to take part in building a new country and anew society.

The Sinai Campaign more than doubled defense spending. In 1956, it reached 14.1 percent of the GNP, but it dropped after the war to 8.3 percent and stayed at between 8 and 9 percent for ten years.

In the Six Day War's budget year, the expenses jumped again to 16.8 percent of the GNP. But this time it did not drop after the war, but continued to increase to 18.4 percent in 1968 and to 21.2 in 1969, and in 1970, with the War of Attrition, the defense budget reached 26.3 percent of GNP. In 1971, after that war, it jumped again to new heights[4]. Thus, after the Six Day War Israel failed to implement one of its doctrine's basic assumptions, namely that the nation's resources be concentrated on defense at war time but released thereafter to continue the economy's rapid growth. Not only did the arms race continue after the war, but also the price for renewing the military arsenal kept increasing. The Six Day War was also a turning point in the development of Israel's defense sector. Not only the size of the army increased, but also the size of the defense ministry and the defense industry. In 1962, the defense outlay was 9 percent of the sum of local services, and it increased rapidly until 1980, when it reached a figure of approximately 25 percent of the total local services.[5] After the Six Day War, Israel was not a nation that ha an army but, in a big of exaggeration, an army that had a nation.

On the eve of the Yom Kippur War, the Israel defense mechanism ha already functioned for several years as a well-developed requisite variety mechanism. At the same time, public faith in this defense established reached its peak. Israel's doctrine was

widely accepted. The socialization stage of the doctrine was over and questioning of its logic became almost taboo.

To summarize, Israel had succeeded in establishing a huge and relatively efficient defense system capable of a high degree of "requisite variety," but too coherent to cope with fundamental changes, if and when they occurred.

B. The Incubation of Fundamental Surprise

In the 1950s and 1960s, Israel's doctrine provided a very useful frame for thinking and guiding action. Israel's smash victory of the Six Day War, however, cause fundamental changes in its political-defense environment. On the other hand, by now, the Israelis had lots some of the qualities that had so uniquely characterized them in the past and which they thought to be intact. Simultaneously, the environment had changed considerably, also with out notice. The fundamental changes after the Six Day War were of a political as well as strategic nature.

Before the Six Day War, Egypt's objective was "freeing the conquered lands," which actually meant annihilation of the State of Israel. After the Six Day War, it was rephrased as "annulling the results of aggression," which meant returning the occupied territories. Even this more moderate goal was not perceived by the Egyptian leadership as feasible by purely military means.

Recognizing Israel's military superiority, Nasser also formulated the concept of a "military solution," being not the sole means of achieving the goal of "annulling the results of aggression," but rather as a necessary component of a "political solution." Nasser interpreted the United States and Israel policy of status quo as an unwillingness to return occupied Egyptian land even if Egypt would be willing in return to negotiate a nonbelligerency agreement. On many occasions, Nasser expressed his belief that the only way to convince the Americans and the Israelis to change their status quo policy was by demonstrating that it was a dangerous, unstable situation. In this context the meaning of "military solution" was to undermine the status quo and not to conduct a total war. This set of conceptions was published at the time in numerous articles appearing in the Egyptian and foreign press and even in an Israel military publication.[6]

The Egyptians actually revealed considerable consistency in implanting their new policy during the period between the Six Day War and the Yom Kippur War. When the

War of Attrition broke out, Nasser declared in a public address before the Egyptian Socialist Union Party (March 27, 1969) that the Egyptian plan was comprised of for stages: the first stages was to bombard the Bar-Lev Line with artillery fire; in the second, Egyptian commandos would cross the canal and attack Israel strongholds near the canal; in the third, the Egyptians would intensify their raids on the Bar-Lev Line, increase penetration of the heart of Sinai, and attack Israel units and installations there; in the fourth and final stage, Egyptian forces would cross the canal in an extensive campaign and seize territory on its east bank, thus breaking the political freeze.

During the War of Attrition, the Egyptians cause many casualties and greatly damaged the Bar-Lev line, but they were unable to destroy it. On the contrary, the Bar-Lev line was intensified and reinforced. It was not immune to penetration by Egyptians units, particularly at night and in areas that were not covered by Israel stronghold fire and reconnaissance. However, Egyptians had to retreat by morning, ensuring Israel presence, if not invulnerability, on the canal line. With relatively few manpower resources, Israel had succeeded in restraining most of the Egyptian Army. Nevertheless, from the Egyptian point of view, the daring and skill reflected in night raids on the line of emplacements reinforced the feeling that Egypt was capable of overcoming Israel's line of fortification.

The two most important and effective elements in the War of Attrition were the artillery and air force. The Egyptians had stronger artillery power and they used this advantage effectively by initiating artillery battles. The Israelis responded mainly by using their air force, operating it as a kind of flying artillery to compensate for their ground artillery inferiority in the canal front and for retaliating in depth at Egyptian targets.

In July 1970, following the IAF deep bombings of the Delta region and the cumulative effect of Egyptian losses at the canal front, Nasser agreed to a cease-fire. Immediately after it took effect, Nasser ordered Egyptian anti-air missile batteries to advance to the canal region, contravening the agreement under cover of the cease-fire. This was a most important and influential move, which enabled Egypt to engage in the fourth phase: the Yom Kippur War. At the time, most of the Israel leadership did not comprehend the significance of this event. The increased supply of American planes to Israel and the provision of an excuse for retreat from negotiations over the Rogers Plan

were, at the time, perceived as appropriate compensation for Israel's acceptance of Egypt's cease-fire violations and the existence of missile batteries near the Suez Canal. Ezer Weizman summed up the Egyptian move and its ramification on the Yom Kippur War as follows:

> "The October 1973 war began in August 1970, when Israel accepted, apparently from lack of choice, the advancement of the Egyptian missile batteries to the Suez Canal—in explicit contravention of the cease-fire agreement—and contented itself with American promises, instead of shattering those missiles and leaving no trace thereof! This was the root of all failure. Because of this—and not only because the reservists were not mobilized in time on the Eve of Yom Kippur or because the Armored Corps was not appropriately deployed—the Egyptians succeeded in crossing the canal and entrenching themselves east of it."[7]

Nasser's death on September 28, 1970 delayed preparations fro the fourth stage until early 1973. After his rise to power, Sadat reinvestigated the options of a "military solution." During a certain period, it appeared that he had abandoned this path and was counting on a political solution. Eventually, however, he determined that a "military solution" was Egypt's only course of action. Sadat continued Nasser's four-stage plan. The basic consistency and continuity of Nasser and Sadat's strategic conceptions (which the latter attempted to obscure) is seen in Egyptian military preparations and exercises. The Egyptian plan for the Yom Kippur War, "Improved Granit-2," was an updated version of the "Granite-1" plan prepared in early 1970. Although this plan had since undergone many changes, its nucleus remained.[8]

Israel considered the War of Attrition a victory. If the Six Day War proved Israel's superiority in a general war, the War of Attrition demonstrated that even in static, partial, and defensive war, the Arabs had no hope to win against Israel.

Although they believed that Sadat did not have the option of a "military solution," some Israel leaders did not rule out the possibility that eventually Egypt would initiate war as an act of frustration if the "political solution" failed.[9] Moshe Dayan suggested that Israel should propose a one-sided withdrawal from the Suez canal to the Mittla and Gidi mountain passes. His logic was that such a move would enable Egyptian refugees to return to the Canal Zone, rebuilding their cities and villages along the canal. The level of

frustration would be reduced and the motivation for keeping the cease-fire would increase.

Dayan's suggestion was reflected by Israel's cabinet, although he was not the only leader who wanted to prevent a war as an outcome of frustration. Dayan, as others, did not believe the Egyptians could gain in such a war. They continuously thought of the Six Day War as the prototype of military victory. On September 10, 1973, at an election meeting in Beer Sheba, Dayan expressed his confidence that: "Six years have already passed since the six Day War and we are talking now of another period of four years. We are used to having every ten years a war for six days."[10]

His conviction was based on the belief and determination that, if a war actually occurred, Israel would conduct it by the same successful doctrine applied in the Six Day War. In hindsight, it is clear that the Egyptians conceived of the War of Attrition as an encouraging experience for a more comprehensive war, whereas Israel saw it as an episode that had not achieved its purpose, one that ought not to be repeated and that they had the means to ensure it would not.

The lesson that the Israelis did not learn from the War of Attrition was that the Arabs had for the first time succeeded in forcing Israel into a defensive war in which the IDF could not apply the decisive maneuvers specified by its doctrine. In the course of the war of attrition, Israel performed many courageous raids, attacking targets in the depth of the Egyptian rear. These proved to be of operational importance, but failed to turn the War of Attrition into the kind that Israel preferred.[10] Understanding this lesson would have alerted Israel to the difficulties that they would face in the next war.

Instead, believing that they had been victorious and that the probability a war was low, Israel evacuated 10 emplacements on the Bar-Lev Line, burying them in sand, and reduced the number of troops at the remaining 16. The Egyptians could see the third stage of their plans as successfully completed and proceed to prepare for the fourth stage.

The following citations demonstrate how deep-rooted the Israeli mindset was and how far it was from the Egyptian logic.

Major General (res.) Matti Peled, a professor at Tel Aviv University and a well-known political dove, wrote on the fourth day of the war:

> "The impossible had occurred. Again Israel and her Arab neighbors find themselves at war. Egypt and Syria were least likely to have desired renewal of warfare, as they had no chance whatsoever of winning anything in this adventure. In the best case, they would again lose all the military might that they had in acquired since the Six Day War, but it is reasonable to assume that they would lose much more, as their military inferiority vis-à-vis Israel is shocking and their chances of enjoying Russian protection after a crushing defeat are even slimmer than they were six years ago.
>
> "If we disregard the complex of relations, feelings, complexes and considerations prevailing in inter-Arab relations, we cannot consider the resumption of warfare by Egypt and Syria as anything but madness . . .Clearly, the act perpetrated by our two neighbors will necessarily lead to a greater tragedy than their leaders could imagine. Military defeat alone will entail far-reaching changes in the structure of the Syrian and Egyptian regimes and will alter relations both between them and the rest of the world and among themselves."[11]

How can we explain this blindness at the level of fundamental thinking in spite of the information and understanding that the Israelis had at the tactical level? It could not be explained as intelligence failure, nor could it have been prevented by obtaining more accurate information. Its roots must be traced back to the period of the late Sixties.

The term "safe Borders" was coined by the Israeli Government after the Six Day War to explain how the new borders were going to strengthen Israel's security. Indeed, these new borders dramatically removed the front from Israeli population centers. These Israel-Jordan border moved from 30 feet away in divided Jerusalem to the Jordan River 20 moles distant. From several hundred feet by air between the Syrian front and the Kibbutzim of the Hula Valley, the border was moved 20 miles away. From the new Syrian strongholds, there was no longer direct observation of the kibbutzim in the Hula Valley. The Egyptian border was moved from several feet on the border along the Gaza Strip, where the kibbutzim were right on the border, to more than 200 miles to the Suez Canal and more than 300 miles from the Eilat. Until the Six Day War, Israelis lived in constant fear of the country being bisected by an offensive surprise attack. Within the

new borders, it was doubtful that the Arab countries had the military power to capture its main population centers, even with a successful surprise attack.

In principle, Israel could now afford to view the territories of the Golan Heights and Sinai as her maneuver areas, enabling the Egyptian and Syrian armies to obtain some beginning achievements, thus trapping them into fighting a war by the IDF's "rules of the game." This, meant, however, developing a doctrine that conceived of temporary Arab territorial achievements as beneficial.

With the new feeling of safety in its new borders, the military logic ceased to dictate political considerations. Rather, it was extended so as to fit political aspirations. These established new settlements in the Golan Heights, putting them in harm's way, close to the new borders. In the Sinai, allowing territory to be captured by the Egyptians came to be seen as threatening Israel's policy of status quo, so that the new borders created even greater demands for territorial defense. In order to sustain belief in the gains of the war, the Suez Canal was claimed to be a natural military barrier of high magnitude, of the type that even armies with vast experience in crossing water barriers under fire (like the Soviet army) would have found to require very hazardous and complex military operation. That was the logic that later on, in the War of Attrition, lead toward the construction of the Bar-Lev Line. Theoretically speaking, this argument has some merit. However, it contradicts the doctrinal logic. Moreover, a static stronghold line was also established along the new border on the Golan Heights where no natural barriers exist. What is so striking in the retrospect is that the contradiction between the logic of the new deployment and the logic of the doctrine was not even recognized.

The Egyptian and Syrian deployment on the eve of Yom Kippur created substantial difficulties for the IDF in conducting a war according to its doctrine, and gave the Egyptians and the Syrian armies excellent opening advantages for maximizing the benefits of their quantitative superiority. Now the Arab armies were close to their capitals. The Egyptian front was only 105 miles from Cairo compared to 240 miles in the Six Day War, and the Syrian front only 26 miles away from Damascus compared to 46 miles in the Six Day War. With these borders, the IDF lost a lot of the advantage of "interior lines" which it had in the Six Day War, an advantage that the IDF used effectively to move forces from one front to the other.

In the Six Day War, the Egyptian forces were sparsely deployed along the Gaza Strip, into the Sinai and west of the Suez Canal along the Delta until Cairo. Their sparseness enabled the IDF to perform deep penetration into the Sinai, thus cutting off the forces in the Gaza Strip and the main Egyptian forces in the Sinai from the mainland and headquarters in Egypt. The Israel Air Force had ideal circumstances to make the best of its superiority. With relative ease, it attacked and destroyed the Egyptian forces moving along the few desert roads, which became death traps for any Egyptian attempt to retreat or reinforce their attacked forces.

During the Six Day War, Egypt already had a number of Soviet ground-to-air missiles positions. The technology of ground-to-air missiles was, however, still young and relatively inefficient. The missiles did not cause a serious threat for the Israel Air Force, which continued to maintain its superiority. On the eve of the Yom Kippur War, the Egyptian army was densely deployed along the west bank of the Suez Canal—a water barrier of 450' width and 80 miles length. The west bank of the Suez Canal is a mass of vegetation and water channels which makes it an ideal defense area, creating difficulties in observation from both air and ground and forcing the attacker to slow down. Coupled with this, the Egyptians had by now almost hermetically sealed the skies above the defense line with a dense line of ground-to-air missile positions.

The Syrian front, which was regarded in the Six Day War as one of secondary importance, on the eve of Yom Kippur, posed a threat in many respects even greater than the Egyptian one. In the Six Day war, the IDF had topographical problems during the first phase of the war—climbing up the Golan Heights. Once the reached the top, the plateau area was ideal for conducting armored warfare. On the eve of the Yom Kippur War, the Syrian defense line had continuous strongholds along the two only axis roads from Kunetra to Damascus in a mountainous area full of cliffs and narrow, winding paths with almost no room to maneuver. Advancing on these paths by sheer momentum was almost impossible. All over these areas, the Israel Air Force now was challenged by dense ground-to-air missile positions, very similar to those of the Egyptians.

"Axe" ("Kardom") 1 and 2 – the air force plans for breaking the Egyptian and Syrian anti-aircraft missile dispositions serve as the most outstanding example for this phenomenon.

During the War of Attrition, the Egyptians tried to advance a missile battery toward the canal, but it was quickly destroyed by the Israel Air Force, thereby preventing the completion of the build-up of a full system of air defense missiles where on type of missile overlaps the other without leaving any "holes" for the attacker to penetrate.

The IDF managed to prevent any deployment of Egyptian missile systems at a high price during the War of Attrition. However, within a few hours after the cease-fire commenced, the Egyptians violated the agreement by advancing their missile batteries to the front and constructing a full disposition of surface-to-air missile systems along the canal. Israel turned to the U.S. and demanded that the Soviets and Egypt honor the agreement and withdrew the missiles. The U.S. at first disregarded the evidence and the attempted to compensate Israel by promising to supply new-sophisticated weapons.

The advancement of the Egyptian missiles created a new situation, which actually determined the fate of the first stage of the 1973 War. Although the Israel Air Force developed an answer to the new situation, its execution depended on a series of conditions, each a prerequisite to the success of the operation yet insufficient in itself. The plan contained several stages, where each step opened a "groove" in the adversary's "defense" position enabling the penetration of the next wave of airplanes, which would then widen the groove. Completion of the operation called for continuous execution of all stages. The operation in on front demanded allocation of a considerable amount of the Israel Air Force resources not only in terms of the number of aircraft, but also in terms of command, communications, control, intelligence, and electronic warfare. Execution of the plan did not leave sufficient forces for simultaneously performing any other large-scale task. In addition, good weather conditions, particularly visibility, were imperative and the plan could only be performed early in the morning.

Preparations for the destruction of surface-to-air systems became the IAF's main challenge after the War of Attrition. The Air force reached incredible abilities in coordination and precisely implementing the entire complex exercise. But realization of the plan depended upon a political decision to enable the Air Force an attack at dawn on the first day of war. If war started later, the IAF would not be able to provide reliable support for the ground forces until the following morning. Therefore, reinforcement of the permanently deployed units in the front, so that they would be able to hold the first

day of fighting without relying on the Air Force, became essential. However, this conclusion did not fit with the concept of "security borders." If the benefit of the occupied territories is explained in terms of military advantages, how could one explain the need for extended growth of the regular army, enlarging the defense economic-social burden on the country?

Thus the Air Force found itself, from the early afternoon of October 6, called upon to fill in breaches in Israel's sparse defense line without being able to perform these tasks efficiently, and suffering heavy losses.

The next morning, in spite of the previous day's losses and the interference with its preparations, the Air Force began to execute of Axe 1. However, in the midst of implementing the original plan, the Chief-of Staff ordered a substantial amount of the Air Force to the Syrian front. There, the penetration of Syrian armored units had reached the edge of he Golan Heights and threatened to move down into the valley without the IDF having deployed forces to stop them.

After the Sic Day war, in order to be able to keep its "security borders" and the status quo, Israel became more dependent on American economic, military, and political support. As a result, its freedom to implement its military strategy was substantially reduced. The prerequisite for its strategy of utilizing maximum force at the opening stage of the war, let alone as a preemptive strike, contradicted the political ramifications of implementing the policy of security borders. Even immediate full mobilization of the reserves became less probable as a result of the need to consult the Americans first.

The doctrinal principle of quickly transforming the war to enemy territory became inconceivable. In its new borders, Israel came closer to the Arab capitols of Cairo, Damascus, and Amman. Any substantial territorial military advance became a direct threat to those Arab capitols, and would cause immediate Soviet reaction.

Finally, but not less important, the national consensus so central to Israel's doctrine, which existed in the small Israel besieged by powerful enemies, could not hold after the Six Day War, in the territorially extended state which occupied an area three times as large as before. Transformation of a besieged state into an occupying power increased self-confidence, however, it also shifted the main problems of the state from

the external threat into unresolved internal problems. The tensions created and released by the occupation gradually gnawed at the consensus.

C. Collapse of a Doctrine

When the cabinet convened on the morning of October 6th in order to decide on Israel's response to credible information that a war was pending that very day, it found it faced with military contingency plans that did not fit the complexity of the political environment. Only in this meeting did the cabinet come to realize that a wide gap existed between its political goals and war plans. The Chief-of-Staff proposed two decisions. The first one was preventive air strike on Syrian air force base. The second was an immediate large-scale call-up of reserve forces. Prime Minister Golda Meir rejected both proposals on political grounds.

An immediate call-up of the reserves and a preventive strike were essential elements of Israel's doctrine. However, the circumstances did not seem to justify either. American support was considered more valuable than the harm of calling up only part of its forces and conducting war with out a preventive strike. Full mobilization seemed to yield less harm to Israel security than the expected political damage if Israel initiated full mobilization or struck first without coordination with the United States.

In the first two days of fighting, Israel's military leadership attempted to confront the fundamental change as if it were experiencing only situational difficulties by allocating more and more forces in order to stabilize the lines. This response involved many losses and did not bring substantial results. Although by October 8, Israel managed in the canal front to turn over its initial quantitative inferiority into superiority, it still had failed to translate it into military achievements. The counterattack of Brigadier General Adan's reserve division on October 8th was a complete failure, providing a clear demonstration that the surprise was not the main reason for Israel's chaotic response during the first days of the war. Rather, that was caused by the distortions of an obsolete doctrine. On the same day, Israel conducted another counterattack on the Golan Heights. The need to conduct two simultaneous counterattacks on two different fronts may have been seen at the time as a necessity. However, it clearly contradicted the doctrine. Secondly, at the same time that the

Adan Division was in the midst of its attack and it was already clear that they had severe difficulties, the second reserve division, command by Brigadier General Sharon, was standing still, while Sharon himself stood on a nearby hill watching the scene. According to the plan, if the other attack would have proven successful, he was supposed to approach the canal and cross it. But such conduct is still strange in the context of Israel's doctrine. Thirdly, it was an attack much like the Six Day War tank attacks, but with only the foggiest knowledge of where it would confront the main enemy force, although the first two days had already provided the lesson that this was a different kind of war, in which the Egyptian infantry could stand against Israel's army. The confusion, disorder, and misreading of the situation by headquarters which characterized the situation in the battlefield is described by military historian Martin Van Creveld: "A division commander who did not know what was going on reported to a front commander who knew less, who in turn reported to a Chief-of-Staff who knew less than either . . . it was the man who knew the least who made the crucial decisions."[10]

During the first three days of the war, that saved the IDF from defeat was the tremendous ability of its low-level combat commanders to initiate and improvise, even (or mainly) in chaotic situations. These characteristics played a critical role on the Golan Heights front on October 6th and 7th, when the Syrian Army succeeded in penetrating the IAF's line, and almost no forces were available to stop them from reaching the Jordan River for the following 12 hours until the first reserve armor division was expected to reach the battlefield. It was the tactical Israel combat commanders' boldness that saved the Golan.

By their own initiative, some of them "requisitioned" crews and tanks from the vestiges of retreating units, confiscated ammunition from trucks that were on their way to units in the front that probably did not exist any more, and thus improvised new fighting units and returned to fight the Syrians.

The two turning points in the Yom Kippur War that enabled Israel to recover from its chaotic situation during the first three days of the war and to move from chaos into a new order and from defense to offense were, again, mainly the results of actions taken by Israel's combat commanders. The first one was the discovery of the Second

and Third Egyptian Armies. It managed to reach the canal without encountering enemy forces. This discovery was used to penetrate a small unit to the other bank of the canal. Daring to rely on this fragile bridgehead, Israel built up an offensive force on the west bank of the Suez Canal, behind the main Egyptian army deployment. The other turning point in this war emerged after the IAF had failed in its Axe operation and other attacks to destroy Egypt's ground-to-air missile deployment. However, in the midst of battle, an Israel armor unit reached a ground-to-air missile installation and destroyed it with tank guns. This operation proved that ground-to-air missile deployment, which was impenetrable when attacked from air, was actually very vulnerable to attacks from the ground. Thus, instead of the well-rooted concept that aircraft pave the way for the ground forces, here, the ground forces paved the way for the air force.[11] This route was later broadened systematically by additional raids from the ground along with attacks from the air. Once the missile position ceased to function as a system, each missile battery become even more vulnerable to air attacks.

Thus, the "edge of the threads" for military recovery from the chaotic situation created by the fundamental surprise of the Yom Kippur War was found in the battlefield and not in the higher levels of command. They were found unexpectedly as they often are in the realm of the entropy of the battlefield. The contribution of Israel's military leadership was mainly in adopting these discoveries, creating bridges on which the Israel war machine moved from entropy to a new order.

Israel's achievements in this respect are even more impressive if we compare the swiftness of its military recovery to that of other nations exposed to fundamental surprises, like the Soviets following the Barbarosa surprise and the Americans after Pearl Harbor. In the north, by October 10th, the IDF had completed recovery of the Golan Heights (except Mount Hermon) and started to advance into Syrian territory. In the south, the crossing the Suez Canal occurred tow days later.

Although the two Egyptian armies were still on Israel's side of the canal, Israel's armored division was again in an ideal area for tank battles, the open desert, this time on the canal's west bank. Israel once again tried to finish the war by a decisive victory as their doctrine dictated. However, they learned once again that they could not implement their doctrine.

Once Israel reached 100 km from Cairo and had besieged an Egyptian army, the Americans began to pressure the Israel government to disengage and remove the army. This initiated the beginning of a negotiation process that led to a new kind of face-to-face encounter and eventually became the turning point toward the peace process and the peace agreement with Egypt. Thus the Yom Kippur War started surprisingly, by demonstrating the obsolescence of Israel's doctrine; it also ended surprisingly, with a reminder that, despite the military victory, the doctrine still did not fit reality.

The Israelis ability to improvise new situational responses during the war did not mark recovery from the fundamental surprise. Broader nonmilitary aspects of the surprise emerged only after the war, when its became clear that situational military solutions solved immediate problems of the war—serious in themselves—but left the basic questions unanswered. From a situational perspective, there is an agreement that Israel won the Yom Kippur War with perhaps its greatest victory. Nevertheless, as time passed, doubts arose among many Israelis whether on a more fundamental level the results of the war should indeed be termed as victory.

Chapter 4 Notes

1. Yuval Neeman in Zvi Lanir (Ed.), Israeli Security Planning in the 80's (1984).
2. S. Rolbant, The Israeli Soldier: A Profile of an Army (1970).
3. Yoram Peri, Between Battles and Ballots: Israeli Military in Politics (1983).
4. Zvi Lanir, Political Aims and Military Objective, pp. 34-35 (1984).
5. Economy, p. 167 in Zvi Lanir (Ed.) (1984).
6. For Nasser's conceptions on the essence of the military solution, see: Yona Bandman "Abed El Nazer's Combat Policy" (June, 1972) (Hebrew). D. Shiftan "From the Six Day War to the War of Attrition" August 1977 (Hebrew). The transformation of these conceptions before the Yom Kippur War can be found in

the Sunday Times reports from Cairo April 8th 1973 and the Lebanese Paper Al Wahar from September 21st 1973.

7. Ezer Weizman and Dov Goldstein, p. 310 (Hebrew). About two months after the Egyptian move (on October 3, 1970), the American commentator Joseph Alsop wrote an article about the missile fiasco in the New Republic. He pointed out that Israel did not manage to develop a tactical solution for the surface-to-air defense missile position along the canal. Moreover, he argued that if the IAF could not find an appropriate answer for this problem, the Egyptians would gain control over the canal skies and prevent effective Israel Air Force activities in the Sinai Front. See New Republic, October 3rd, p.18, 1970.
8. See: Heikal The Road to Ramadan. P.155. General Gamasi in his memoirs says that the preparation for the Yom Kippur War started as early as 1968, with the beginning of a series of annual exercises. See: Yehoshua Halamish "War memories of the Egyptian Chief-of-Staff." Yediot Acharonot December 15, 1978 p.3 (Hebrew). Gamasi meant the series of exercises called "freedom," the last of which, "Freedom 41," was the primary deceptive cover for Egypt, allowing it to move forces towards an attack.
9. In contrast to the Egyptians, whose military campaigns were intended primarily to advance the political process toward their goal of returning Sinai, the Syrians sought to achieve their won objective—return of the Golan Heights—by military means alone. In a meeting with Syrian journalists on the second anniversary of the Yom Kippur War, Syrian Defense Minister Mustafa Tlass characterized the basic conceptions of "military solution" and its ramifications regarding operational planning:

   > "We aspired towards liberating the conquered Arab lands. The Egyptian political leadership aspired to cross the canal and remain on its banks without attempting even to penetrate deeply, seeking to advance matters in the international sphere."

   The quote is from the Middle East Agency Report. Damascus October 5, 1975 (Hebrew).
10. Bartov, Part A, p.282 (Hebrew).

11. Maariv, October 10th, 1973 (Hebrew).
12. Maariv, February 15, 1974 (Hebrew).
13. Martin Van Crevald, Command in War (1985) p. 299.
14. Ezer Wiezman: p. 313 (1975). (Hebrew)

Chapter 5: Learning from Surprise

The Yom Kippur War represented only the beginning of a process, a trigger for widening revelations of surprise. In the following decade, Israel was subject to two additional surprises: Sadat's peace initiative in 1977 and the War in Lebanon between 1982 and 1984. Each had unique situational characteristics. However, they had common ground at the fundamental level. This chapter examines the phenomenon of fundamental surprise from the perspective of its instrumental value. We ask, why did Israel fail to learn from the Yom Kippur revelations, or from the subsequent series of surprise having the same fundamental nature?

Fundamental and situational learning do not have the same time span. The development of fundamental understanding is an extended process, whereas functional political and military lessons must be derived immediately after a surprise. Thus, it might have been inevitable that, during the war and right after it, Israel concentrated on situational lessons. More disturbing is the fact that throughout the following decade, government, army, and intelligence all continued to explain the surprise as if they were of a situational nature and to act accordingly.

The years following the Yom Kippur War were characterized by a growing tension within successive Israel governments, which tried to deal with the revelations of the war on a situational level, and public opinion, which pressured the government to widen the scope of its questioning. The political leadership's response always seemed too late and too little.

When first attempts to blame the surprise on the "other" (i.e., on adversary deception) failed, an attempt was made to place responsibility on a subsystem, namely, military intelligence, which had apparently failed to provide the necessary early warning.

After it became evident that many of Israel's serious deficiencies in the war had little, if anything, to do with intelligence, the focus of responsibility shifted to high-ranking military officers, who started to blame one another in what came to be known as "the war of the generals." In the next phase, political figures, especially Moshe Dayan, became the target. Even after Dayan had resigned, the search for blame continued. The phenomenon overflowed, eventually eroding the whole political establishment. In 1977 the Maarach (Labor Party), which had been in power at the time of the war was defeated in elections for the first time since Israel's creation. In its stead, came the "Likud" Party, which presented an extremely different ideology and style of leadership. Five more years passed within which two other fundamental surprises occurred, before the issues moved from the realm of a particular party to the nation's self-concept as a whole.

On the first day of the war in Lebanon, the prime minister and the Likud Party leader, Menachem Begin, declared that "'Operation Peace for Galilee' had erased the stain of the Yom Kippur War. However, the war in Lebanon revealed that most of the basic deficiencies that had caused the Yom Kippur fundamental surprise were still with the system. This time they did not bring the IDF to the brink of military defeat because there was no enemy powerful enough to cause such a defeat. The war also revealed that another party and ideology do not necessarily mean new fundamental thinking. The war revealed that blaming the Yom Kippur surprise on the faults of any on party and looking to a rival party to fix things is a superficial way to address the need fundamental learning.

A. The First Wave of Explanation: The Deception

Immediately after the Yom Kippur War broke out, the media attributed the surprise to enemy deception. Testimony and descriptions provided by soldiers on the front lines regarding the outbreak of war were widely circulated and helped foster the popular view that Egyptian deception had played a decisive role in the war. This explanation provided Israelis with a convenient, comforting excuse for their unexpected failure. The enemy had used unfair, dirty tricks! It did not even have reservations about striking on the highest Jewish holiday, when almost everyone was praying in the synagogue…

What was the true role of this deception? Egyptian-Syrian planning for the war included many deceptive elements. War preparations were disguised as exercises.

Egyptian officers up to the battalion level received their orders to cross the canal only a few hours before the war began. Israel military intelligence deciphered coded telegrams from which they learned that the concentration of forces west of the Suez Canal was aimed for exercises. On October 4, Egyptian authorities publicly announced the release of about 20,000-reserve soldiers[1] and, on October 5, the Egyptian newspaper Al Ahram published an article concerning the ongoing registration of soldiers for a pilgrimage to Mecca.

But these and other successful deceptive measures were not without defects. Several days before the war, a highly classified order was intercepted, calling for cancellation of the Ramadan fast in certain units. It appears that the Egyptian deception and camouflage scheme helped reinforce Israel's belief that the Egyptians and the Syrians would not dare attack. However, it was Israel's own self-deception, which constituted the major factor behind such feelings.

Deception is an integral part of every war plan. In some cases (such as the Six Day War), the success of the whole operation depends on it. However, the Egyptian planners did not ascribe critical importance to deceptive and diversion moves beyond what is considered "standard" in any military operation. In his book Memoirs of the October War, General Shazli states that Egyptian intelligence estimated that Israel would receive warning 15 days before "D-day."[2]

Actually, the Egyptians began to develop the deception myth in retrospect, after they had realized how crushing the surprise had been. Then, they claimed the surprise to be a product of Egyptian military genius in planning and performance. They may even have considered it a valid explanation for their own surprise at the unexpected ease of the canal-crossing operation. By highlighting the importance of successful deception, Egypt presented the events of the Yom Kippur War not only as a military victory, but also as proof that the myth of Israel military superiority was had been shattered. The surprise they initiated so successfully was of no less magnitude than the surprise that Israel presented them in the Six Day War.

Much of Israel's public still believes that a sophisticated Egyptian deception scheme had been implemented. Nevertheless, a few months after the war, there was an

increasing tendency among Israelis to reject this explanation as exhaustive. The next logical target was to blame Israel intelligence.

B. The Second Wave of Awareness: Focusing on Intelligence

After the war, the Agranat Commission and the Israel intelligence community itself tended to consider the apparent warning a result of personal and organizational errors. The Agranat Commission's recommendations reflected its understanding of the failure as resulting from the incompetence of several intelligence officers, especially Chief of intelligence Major General Eli Zeira, the head of the Egyptian desk in the intelligence research department, Lieutenant-Colonel Yona Bandman, and the intelligence officer of the Southern Command, Lieutenant- Colonel Gedalia. Organization-oriented recommendations, in turn, were based on the assumption that the failures in intelligence evaluation were the result of shortcomings in Intelligence's organizational structure, which did not place sufficient emphasis on field intelligence.

The Agranat Commission also issued recommendations that sought to "ensure pluralism in the various types of intelligence evaluations."[3]

Reorganizing and reinforcing the Research Department of the Foreign Ministry as an independent intelligence estimates center, was capable of providing independent political-strategic evaluation.

Establishing in the Mosssad an evaluation unit that would provide intelligence estimations based on its analysis of information gathered by the Mossad collection units. Appointing a special intelligence advisor to the prime minister.

These recommendations did not offer anything new. They also repeat almost verbatim the unimplemented recommendations that the Yadin-Sharef Commission had reached ten years earlier when appointed to investigate the structure of the intelligence community by David Ben-Gurion. They were rejected at the time as unsuited to the special needs of Israel's situation. They repeat recommendations made for reforming the U.S. intelligence system, which is also considered a failure in surprise prevention. [5]

They were undoubtedly personal and organizational factors behind the surprise. However, there was little basis for the committee expectation that personal

and organizational changes could make a substantial positive change in intelligence's ability to prevent surprises. In the long run, the Agranat Commission's recommendations had a misleading effect, as they fostered the impression that implementation of such changes could be the answer to the problem.

These recommendations, however, were only partially implemented. The most important part of the recommendations were overruled by Yitzak Rabin, who became Prime Minister after Golda resigned. He argued that in Israel's special circumstances, military intelligence should be responsible for providing national early warning and that in any event, the responsibility for accepting or denying intelligence estimates is the province and duty of the prime Minister and the Government. Moreover, when Moshe Dayan, who became foreign minister after Yitzak Rabin, suddenly passed away, he inherited the newly reorganized research department that Yigal Allon enthusiastically established in the office and which had gained some reputation and influence. Moshe Dayan, who was accused by the public as personally responsible for the Yom Kippur fiasco, showed no interest in the new responsibility for intelligence estimates. Thus, the new organization faded. Military intelligence remained responsible for national estimation as well as early warning. Yitzak Rabin had little enthusiasm for the recommendation of appointing a special intelligence advisor. Professor Yehosofat Harkabi, ex-head of military intelligence, was appointed to this position only after much public criticism. He held the office less than three years and resigned, in part because of disagreement with the policies of Menachem Begin, who had become prime minister, but mainly because he realized how limited his responsibilities and influence were.

The changes implemented in military intelligence were of a situational nature. Intelligence's main deficiencies were not removed, despite various changes and improvements. It was still expected to fulfill two contradicting responsibilities, that of early (situational) warning and that of national estimate. Compared to its performance before the war, Intelligence's efficiency in situational early warning had increased. The threshold of early warning alarms was reduced. The prewar tendency toward overconfidence changed towards risk avoidance. This tendency may have influenced

intelligence toward more sensitivity of military early warning, but it may also have contributed to its blindness on the signs of Sadat's peace initiative.

Four years after the fundamental surprise of the Yom Kippur War, Israel was fundamentally surprised once again by Sadat's visit to Jerusalem (November 1977) and the commencement of what was later the "peace process". This time, the intelligence failure was not non-provision of early warning of the occurrence and date of the visit. Only the Prime Minister, Foreign Minister and their personal aides were brought into the secret of the talks with the Egyptians that preceded Sadat's visit to Jerusalem. Intelligence had no idea of the events and was as much taken by surprise, as was everybody else when the news came over the radio. This time it failed to see the economic, social and political changes in Egypt that had been developing over a long period of time and had made Sadat's historic visit to Jerusalem possible. Intelligence's failure, first, to foresee the process and, then, to understand its comprehensive meaning was no less striking than its failure in the Yom Kippur war. Nevertheless, it was not been recognized as such by the public, primarily because it was not accompanied by a national crisis but rather by uplift in national morale and hope.

Several days before the visit, after Sadat ha publicly announced his intentions in the Egyptian Parliament, then Chief-of-Staff General Mordechai Gur claimed that the announcement might be a deceptive signal. He immediately asked for the defense minister's permission to order the IDF to move into an alert for possible war, but was refused.

In a public lecture at Tel-Aviv University, held several months after Sadat's visit, Major General Shlomo Gazit, then chief of military intelligence, revealed that only two months before the Egyptian president came to Jerusalem, a comprehensive study on the Egyptian public's view of the conflict and the possibility of peace with Israel had been completed.[5] The study concluded that Egyptians' views of Israel had not changed and that there was no significant softening in their attitude of uncompromising hostility towards Israel and readiness to continue the belligerence. Sadat's visit to Jerusalem, declared Gazit, was the result of a personal decision and did not express a broader readiness to strive for agreement with Israel. The visit was a

personal caprice; continuation of the "peace process," if any, would depend on the whims of one-person only.[7]

Five years later, a third surprise occurred: The War in Lebanon (1982-1984). This time, Israel was the initiator. Israel launched a surprise attack, but still found itself fundamentally surprised.

Israel entered "Operation Peace for Galilee"[8] with all the cards in its hands. The Soviet Union was neutralized, the United States approved the operation, Iraq and Iran ere in a state of war, Egypt was bound by the peace agreement with Israel, and Syria was isolated more than ever. It seemed that this time Israel would be able to dictate the course of events.

The operation, planned to be complete in a few days, extended over two years and failed to achieve most of its objectives.[9] In this war, Israelis was not subject to any situational surprises, nor did anyone claim that to be the case. The IDF was not surprised by Syrian or PLO weapons technology. The umber and development of forces were well known. The operational methods of the enemy did not cause surprise nor did their ability to stand and fight.

Israel's intelligence estimates regarding Syria and the PLO were by large accurate. It was accused, though, and rightly so, that not enough emphasis was given to understanding the effects that the invasion would have on the delicate balance between the different fractions in Lebanon, in particular on the power of the Druze and the Shiites.

The most critical failure of foresight in this war was related to Israel's closest ally—the Christians Phalangist forces. The operational plan was based on assumption about phalangist political and military strength, as well as its ability to govern the state and sign a peace agreement with Israel. The head of military intelligence, Major General Yehoshua Saggi, reported intelligence estimates that were pessimistic about the phalangists' military and political fortitude, and about their leaders' integrity.

However, military intelligence's failures in the Yom Kippur War and Peace Process surprises ha undermined its prestige. Israel's political leaders gave the younger political intelligence officers less credit for understanding political process in enemy countries that they gave themselves.

While the weight of military intelligence's political estimations decreased, no other evaluation body replaced it, neither the Foreign Office's Research Department nor the Mosad. For the first time, military intelligence did not have a monopoly regarding critical issues.

In the Lebanon War, the Mosad, which had initiated and fostered Israel's connection to the Christian phalange in Lebanon, has its own evaluations regarding Lebanese issues, which by and large, were more sympathetic to the phalange. The result was that the defense minister, the chief-of-staff, and, to a great degree, the prime minister, rejected military intelligence's approach, relying instead on their own impressions gathered in meetings with the phalangist leaders.

C. Military re-learning

Immediately after the Yom Kippur War, the IDF had to cope with a new threat. In the north, Syrians embarked on a war of attrition. It was highly probably that overall warfare would resume. Simultaneously, the various problems revealed during the war necessitated rapid lesson-derivation to guide reorganization of the army. The IDF instituted a comprehensive and accelerated learning process long before such activity was demanded categorically by the Agranat Commission and public pressure.[10] Fore each of the war's "surprises," a rapid "solution" was found. Thus, for example, armor tactics were changed to include more infantry troops equipped with personal anti-tank missiles. Varied night vision devices were purchased, to enable better night fighting. Infantry training and equipment received high priority. The air force improved its tactics and acquired more sophisticated anti-missile systems. Steps were taken to ensure that in the next war—should it occur—there would be no shortage of artillery shells. The IDF's war plans were revised so to become less dependent on receipt of intelligence warning and regular troop deployment on the fronts was reinforced

Lieutenant General David Elazar, Chief-of-Staff during the war, did not get a chance to rebuild the army after the war. The Agranat Commission found him responsible for the IDF's opening phases flaws and he had to resign. The main decision about the size, structure, and character of the army were put in the hands of the new Chief-of-Staff, Lieutenant General Mordechai Gur, who had returned from

his position in Washington as Israel's military attaché and, therefore, could not be identified with war failures an the "war of the generals" which followed it.

When Mordechi Gur entered his new position the most important questions were the size and structure of the army. During the Yom Kippur War, the IDF was forced to fight simultaneously on two fronts and faced a threat on the third. The primary reason for the military failure during the first days of the war had been identified as the quantitative inferiority of Israel's forces. On the other hand, the war also revealed deficiencies in the professional training and, in some cases, the fitness of officers to command. Faults were also found in the army's structure and training. Therefore, the question was whether the priority should be given to quantity or quality. The decision was for quantity. Now, an extensive growth process and unprecedented quantitative increase took place. In the following five years, about one-third and the regular army increased the overall IDF by nearly one-half. One should wonder, however, if this was not an overreaction to the undermining of well-rooted beliefs regarding the IDF's ability to withstand an Arab onslaught with meager forces alone, rather than the result of meticulous reexamination of basic doctrinal assumptions. However, the serious deficiency in numbers that the IDF faced in the first 24 hours of the war was quickly erased. The problem then was not one of troop ratios, but rather of the deployment of available forcers.[11]

Actually, the ratios between IDF and Arab military forces in the Yom Kippur War were better than they had been during any of Israel's previous wars. Israel's security doctrine has always had to wrestle with quantitative inferiority in formulating original war plans, by maneuvering and dictating the place and time of decisive battles to her best advantage.

Enlarging the army, even if perceived as necessary at the time, in hindsight proved to be bad bargain. Accelerated IDF growth did not remain unanswered, but caused Syria to accelerate the increase of its army. In the final analysis, Israel's military inferiority remained essentially unchanged, yet the national and economic defense burden increased.

The accelerating arms race following the Yom Kippur War brought Israel at the beginning of the 80's to a deep economic crisis, and greater dependence on the

United States. That dependence meant a further decrease in its freedom to implement its doctrine. Demographic considerations, even more that the economic ones, became the critical threshold for the army growth. Even before 1973, Israel had recruited a high level of national human resources for defense purposes. Any further increase could be achieved only by compromise on the quality of the recruits. On the eve of the peace treaty with Egypt, Israel was very close to this demographic limit. The agreement enabled only a few more years of compatibility with the rapidly growing Syrian military.[12]

Emphasis on military growth and heavy reliance on American military equipments influenced military thinking: the quantitative emphasis took its toll not lonely in quality of manpower, but also on the quality of military thinking. Reliance on American high-technology military equipment increased and with it absorption of some of the American military's ways of thinking. It created an exaggerated dependence on firepower and formalization, as well as a departure from the doctrine of willingness to take risks even at the highest level of command. In their stead came new codes based on dependence and redundancy, weakening the willingness to rely on flexibility and improvisation. Headquarters became larger, better equipped, and more bureaucratic. The proportions between logistics and other types of nonfighting units and fighting units changed dramatically in favor of the former.

Not only did the IDF become a larger and more technological army, but it also became more professional and compartmentalized, which brought a "grayness" to high command. The colorful individualism and nonconformism that characterized Israel's generals in its first decades are absent in Israel's generals of the 80s. The new generation of high command is more technical, focused on very specific professional questions, and less concerned about having a holistic viewpoint on fundamental defense issues. No new wave of military thinking has evolved to replace the concepts of those generals of the Fifties and the Sixties, like Yitzhak Rabin and Ariel Sharon, who now occupy important cabinet positions and become even more influential in dictating their defense concepts.

All these characteristics were reflected in the coarse way the IDF preformed the war in Lebanon.

D. The Learning Process Within the Political System

Following the Yom Kippur War, the IDF and the intelligence community engaged in a process of lesson derivation, albeit situational in nature. The Cabinet and the Knesset, who ordered the army and intelligence to implement lessons, did not feel obligated to direct similar demands towards themselves, even though during the war the importance of political factors had become evident, as did the serious shortcomings of Israel's political-military decision-making process.

In the meantime, public criticism turned toward the political establishment seeking to understand better the reasons, responsibility, and meaning of the Yom Kippur Surprise. This public mood was clearly reflected in the bitterness over some of the Agranat Commission's conclusions, which placed responsibility solely on the army and intelligence. At that time, public opinion began to realize that the scope of the surprise transcended the boundaries of military intelligence or the army, even if their failures had accelerated its revelation. As mentioned, attention turned to the ruling Labor political party.

The upper ranks of the Labor Party were not sensitive enough to grasp the depth of the charge against it. At the time, it was generally expected that the resignation of Dayan, who was singled out as the political figure responsible for the failure, from his position as Minister of Defense would dull public discomfort. However, his resignation did not save the Labor Party from defeat in the elections of 1977.

The vote in the 1977 elections was primarily a vote of protest and not one of choice. The change on government was more a process of ongoing national questioning than a choice among alternative answers. The election brought the Likud, with Menachem Begin as its leader, to the government. The Likud is base on a group of right wing and centrist parties, with the revisionist Herut party as its backbone. The Herut Party had no governmental experience or even a prepared team to replace the high-level civil servants that the Labor Party had developed and educated. Neither did they have concrete alternative plans or answers to offer. In fact, Begin's success in the elections found him surprised and unprepared, especially in reference to the realm of defense.

The strategic concepts of the Likud party had developed in the underground, before the State of Israel was founded. Over the years, it was enriched by criticizing the Labor Party's policies. The party, however, was never in the position of conducting and experiencing national policy responsibilities. Even before the creation of the State, it was always in the opposition in the Zionist movement and prevented from holding positions of power. After the state was created, it continued in opposition and did not have to test its concepts in implementation. Some of its extreme ideas on defense were by now viewed even by the Likud leadership as rituals more that policy guidelines. It was also mainly in the defense realm that the Likud lacked members who could be considered as experts.

The Agranat Commission recommended that a special ministerial committee for defense affairs be established including no more than eight members. Discussions of defense issues at a full forum (22cabinet members) had proved inefficient, although in Israel's coalition government system, it was comfortable for all parties as well as for the prime minister. Under such an arrangement, the prime minister could discuss issues with a few close ministers without being criticized and cross-examined by those with different defense concepts, and then bring elaborated proposals to the government for approval. On the other hand, even the smaller parties could obtain the satisfaction of participating in defense and foreign affairs decisions.

The ministerial committee was established only after the political turnover in 1977. Yigal Yadin, who had been a member of the Agranat Committee and was now a leader of the new Dash political party, made his party's participation in the Lakiud Coalition conditional on implementation of the recommendation. Yadin was appointed Vice Prime Minister and the special governmental committee on defense issues was established with ten participants instead of eight. Very soon, however, due to increasing coalition pressures, it ceased to exist. Menachim Begin was unwilling to stand vigorously against the parties pressuring him to increase the number of members in the committee, until finally it included the whole government again. From time to time, the cabinet declared itself as a committee for defense affairs, but only in order to legitimate military censorship so as to avoid leaks to the press.

Begin, who seems to have been aware of these problems, invited Moshe Dayan to serve as his foreign minister in the new government. Dayan, who had played a central role in designing Israel's defense doctrine, was now called back to play again a key role in the new government.

Ezer Weizman, ex-chief of the Israel Air Force, now became a member of the Likud and was appointed minister of defense, serving as the third member of the "triumvirate," together with Begin and Dayan.[13] Ezer Weizman did not have the time to design real changes in the existing defense doctrine. A few weeks after the elections, the three became occupied with President Sadat's historic visit to Jerusalem and the Camp David peace negotiations. After the Likud party won again in the 1981 election and its self-confidence grew, criticism increased within Likud that Dayan and Weizman, rather than party members, occupied the most important positions in this government. Both Dayan and Wiezman resigned from the government.

Thus, the hiatus in defense thinking widened. Begin attempted to fill this gap by appointing himself as defense minister in addition to his duties as prime minister, as Ben Gurion had earlier. But this move proved to be more pathetic than constructive. His inadequate qualifications and experience, together with the realization that the burden of the job in the 1980's did not enable one person to fill both positions, opened the door for Major-General (res.) Ariel Sharon's entry as Minister of Defense. After the 1981 elections, Menachem Begin invited Sharon to become his defense minister. At the time, he was the only Likud cabinet member with extensive military command experience.[14] For a long time, Begin tried to prevent Sharon from becoming defense minister because of his reservations about Sharon's integrity. However, after concluding that he could not continue holing the two positions, he assigned Sharon the job.

Sharon found himself in defense policy and military thinking vacuum. The old defense doctrine for the most did not fit the complexities of the new realities. Moreover, some important aspects of it were politically unacceptable to the Likud party. However, no other doctrinal school existed. Among the general staff, there were no generals with strong and clear new ideas or visions on national defense issues that could challenge Sharon's ideas. Sharon managed to maintain good working relationships with Chief-of-Staff Rafael Eitan, who also held extreme right-wing political views, and who did not

challenge Sharon on defense issues. In this unique constellation lay, to a large degree, the explanation for how the war in Lebanon was initiated and conducted.

E. The War in Lebanon: A War without a Doctrine

When Ariel Sharon became minister of defense, Israel was on a political crossroad. The peace treaty with Egypt, the Begin government's primary achievement, had turned into a "cold peace." It did not seem feasible that the Egyptian-Israeli Peace Agreement could be used as leverage for another political breakthrough facilitating a peace agreement with a second Arab country. The next country to consider for such an agreement would be Jordan, but negotiations with Jordan meant willingness contradicted Likud party ideology. Egypt was now neutralized from participation in any Arab war coalition against Israel. Therefore, the peace treaty seemed to allow freedom for political-strategic initiatives on the northern front. In this situation Israel could by attacking the PLO's "state within a state," destroy its infrastructure, as well as eliminate Syria's dominant influence on Lebanese politics, allowing a Christian-dominated Lebanon to become the second country to sign a peace treaty with Israel. It could also cause a war on Israel from a position of quantitative superiority. Weakening the PLO's political power might also undermine its position as sole representative of the Palestinians in negotiations on the future of the occupied territories.

At its outset, the War in Lebanon was presented as "Operations Peace for Galilee"—a well-defined, limited military operation aimed at removing the threat of PLO units from the 40-kilometer artillery range north of the Israeli border. This target was rapidly and easily obtained with relatively few casualties. When the first ceasefire went into effect on June 11, the government could point with satisfaction to the unfounded pessimism of those experts and politicians who had questioned pushing on the Beirut before completing the major military task of dislodging the Syrians from the southern part of the Bekaa Valley. War with the other Arab states had not broken out; American pressure on Israel to halt after a 40-kilometer advance had not materialized, and Egypt had not abrogated the peace treaty. The government could, in fact, point to the new political options opened by the military gains. The PLO mini state in South Lebanon was in ruins, Israel forces had linked up with Christian forces on the Beirut-Damascus road, and the Syrian hold on Lebanon was weakened by a demonstration of Israel's reconstituted

deterrent power. These gains created a situation in which Syria would apparently have to negotiate its future position in Lebanon with Israel; the PLO would have to reevaluate its strategy of "armed struggle" in view of the severe blow it had sustained; the Palestinians would accept the need to negotiate with Israel, giving up the demand that the PLO be recognized as the sole representative of the Palestinian people; and, for the fist time in years, it would be possible to restore a central government in Lebanon under a joint Syrian-Israeli guarantee. If the war had ended on June 11, this would have been a classic example of the kind of political wisdom and perhaps even the moral justification embodied in the Clausewitzian approach. But when the ceasefire broke down, the IDF was called upon to enter Beirut and push the Syrian forces out of Lebanon. This reversed the entire situation.

Moreover, in the midst of the War in Lebanon a bitter public debate arose, challenging ethical, ideological, and political issues related to the objectives of the war and ways it was being conducted. For the first time in Israel's history of wars, the national consensus was shaken during wartime.

Labor party leaders and left-wing doves described the war as an inevitable mistake of the Likud's defense doctrine and labeled it "war by choice," as opposed to what they considered the successful old doctrine, labeled "war of no choice." The labor party leader, Shimon Peres, claimed that all previous wars had been justified while the Likud now broke an Israel ethical code by initiating an unjustified one.[15] The principle of fighting only a "war of no choice" had been a cornerstone in Israel's defense doctrine, representing the exertion of power only in order to prevent a threat to the state's very existence. Terrorist activities, distressing as they were, had never constituted a real danger in this sense.

On his part, Menachim Begin defined the moral right and the strategic logic of conducting a "war by choice":[16] " . . . the conclusion is, on the basis of the relationship with the surrounding nations and our own national experience, that it is not a better deed to conduct a war only of no choice. There is no moral obligation that requires a nation or gives it a privilege to fight only when facing the ocean or when standing in front of a pit. Such a war can cause enormous casualties. On the contrary, a free nation, one that

despises war a loves peace, on that is concerned with security, must create circumstances wherein war, if necessary is not of no choice."17

In the context of this critical debate between Begin and Peres, the war was perceived as representing the doctrine of a war by choice and its results as showing that such a doctrine can only bring about a fiasco.

We must ask ourselves whether the war actually represented an alternative doctrine and if its failure stemmed from moral and political alternative fundamental concepts. I claim that the war in Lebanon revealed the results of conducting a war without any advantage of what seemed by rational analysis to be a historical opportunity. The manner in which the war was conducted is a clear example of situationalizing the fundamental dimensions of a war. A basic limitation in Israel's doctrine was its need to include all political and military levels in a common conception. In the Lebanon War, that concept came from a single person, Ariel Sharon. Explaining the implications of the situation requires elaboration on the philosophical principles underlying "war of no choice" and "war by choice."

Complementary to "war by choice" is the idea of "war by denial." Both follow a similar logic. The first refers to the issues for which a nation will go to war, while the second refers to its goals once the war has begun. "War by denial" means that a state has no political objective besides defending itself from aggression. Once "denial" has been attained, the war's goals have been obtained. In the logic of war by denial, there should be no tension between political and military objectives. The politicians should not prevent the generals from making the most of their military options in order to obtain a decisive victory. The use of force in war should not be limited to or extend beyond military logic because war is not a means of achieving political aims, like stabilization or reconciliation.

Israel's version of "denial war" considered war as the means that eventually would bring about peace. According to its defense doctrine, successful denial would convince the Arab states that they had no chance of destroying the State of Israel. Only then, would they come to the peace table. In other words, the denial doctrine, by achieving a decisive victory, could both ensure survival and bring peace. This closes a tautological circle of political and military reasoning that reinforces itself. Philosopher of war Karl

von Clausewitz[18] stated that only wars with clear political aims could be justified. His famous definition of war as the continuation of diplomacy by other means conceived of war as a bridge between two political processes, one preceding the war, the other following it. According to this approach, military power should be employed in order to advance vital interests beyond self-preservation. There fore, he explained, wars should contain a dialectic tension between their political goals and military objectives. Fighting for results that would strengthen the nation's military position at the expense of the enemy should not be the only consideration of the war.

This principle of political war does not address the moral questions arose in the early days of the Lebanon War, when even Labor Party leaders endorsed the operation. It was only later on that the opposition condemned extension of the war beyond destruction of the PLO's infrastructure in southern Lebanon.[19]

Israel's political realities of the 80's allows one to move from denial wars to concepts of political wars, both morally and practically. Actually, the idea of political wars was not foreign to the Israel defense thinking. Ben Gurion steered the last phases of the War of Independence and planned the Sinai War as a Clausewitzian war. The failure of the latter to achieve his political goals convinced Ben Gurion that the constellation in the Middle East would not enable Israel to achieve political goals by war.[33] The transformation from political war to wars of denial that took place after the Sinai War did not stem from moral changes regarding the justification of wars, but from recognition of fundamental changes in the environment. The return to a Clausewitzian approach in the 80's was justified by the claim that fundamental changes had occurred in the environment. Although attention to ethical issues should be a part of policy discussion, in this case focusing on them provided a further device for escaping fundamental thinking.

An additional complication was the fact that on the eve of the War in Lebanon, the process of self awareness within Israeli society, and particularly in the intellectual elite circles, had reached a degree where even the decision to wage a war of no choice, which in the past had been a matter of national consensus, might have evoked critical examination of the circumstances. Did the situation really present "no choice?" Was it justifiable here to utilize maximum force in order to achieve decisive victory? The

protest movements and intellectual from the outset of the war raised these questions, even when it was presented as only an operation of denial.

The fiasco in the Lebanon War did not occur as an inevitable result of betraying the old "good" doctrine in order to implement a new "evil" doctrine. Rather, it involved incorporating extraneous elements that further invalidated the old doctrine by disrupting the balance between political goals and military objectives. The war attempted to achieve far-reaching political goals with a war machine built and trained for attaining decisive victory in a denial war.

The Clausewitzian approach has two facets that appear contradictory, but are actually complementary: (a) the determination to use military force to advance political goals, (b) the need to restrain that force in order to facilitate new arrangements after the fighting. The conduct of the war after June 12 reflects an overzealous attachment to the former facet and decreasing sensitivity to the latter. This imbalance determined the war's failure.

Israel entered the war with huge military might compared to its adversaries, the PLO and Syria. With this cumbersome force, it attempted to manage the complexity of the Lebanese arena. This meant an enormous imbalance between the complexity of the environment and the simplistic nature of a coping mechanism with a very low degree of flexibility.

Whereas the tension between political and military objectives might introduce some complexity, these two functions were consolidated in Sharon's dual roles. In addition, he attempted to manage both domains from top to bottom, thereby disrupting the dialectic tension between the ranks. He would "leap" via helicopter from cabinet meetings to the front to give orders and supervise their execution. From there, after gathering first-hand impressions, he would return to his office to convince the cabinet about what to do next.

After the war, Sharon was blamed for misleading the government and extending the war beyond government intentions. He argued in his favor that never before in the history of Israel had the government been so well informed about war moves. The government had received, from him, many briefings during the war, and was called upon to make many tactical decisions, more than any other Israel government in wartime. However, what the war demonstrated decisively was how a government provided with

situational information can make decisions without being aware of their fundamental implications.

The actual options offered to the government by Sharon were typically choices between two alternatives, one of which entailed great danger to the fighting forces and the other a further involvement in the war that might diminish the danger. The framing of these decisions determined the choices that followed. The doctrinal vacuum, combined with limited understanding of military issues, led the government into ineffective discussions, with step-by-step decision-making becoming a substitute for comprehensive policy formulating. The political and strategic goals of the war in Lebanon were never presented and discussed by the Cabinet, either before or during the war.

During the war, the Government lacked a mechanism for critically examining the information and estimates that Sharon provided it. When the evaluations of military intelligence were inconvenient, he manipulated the situation by relying on the Mosad's evaluations. He also established a special team of military officers within the defense ministry, led by Lieutenant General Abrasha Tamir. This team, the National Security Unit, provided Sharon with basic as well as current estimations based on reports it received from the army, the "Mosad," the "Shaback" (the intelligence body for interior security which was deployed in Lebanon along with the army), and other civilian governmental elements operating in Lebanon. As a result, he had more current and background information than the Prime Minister or Chief-of-Staff. Sharon's National Security Unit was similar to the U.S. National Security Council, which provides the President with estimates and advice on defense issues. Yet, this body did not report to the Prime Minister. Intelligence and the Chief-of-Staff, which had in the past represented their own estimates, now proved to be powerless.

Clausewitz stressed that military operations should recognize political considerations, while politicians should avoid interference with operational military decisions. Lacking technical knowledge, such interference may have as deleterious effects as letting military objectives determine the political goals of war.

In the War in Lebanon, even lower level military decisions were suffused with political considerations. Sharon's attempt to control the tactical levels of the war

seriously affected the army's performance. Forces in battle had to wait for the minister's decisions. When the came, the orders given by Sharon directly to field officers were not always consistent with those issued by military headquarters. This caused, in some cases, clumsiness in operation and, perhaps more importantly, deprived commanders of the ability to initiate as they had been trained to do.

Israel's doctrine was based on certain intangible elements, which were a key to its victory: morale, belief in a war's justification, risk taking, and devotion to goals under any circumstances. These elements were not seen as important or necessary in this war.

In the Lebanon War, for the first time, Israel had tremendous superiority in numbers, technology, organization and professionalism of planning and performance. This was the only "sure" war, intended to be free of risks—or improvisation. The unavoidable "frictions" of the battlefield were to be massive firepower. With this kind of matches there is little need for boldness, or for combat commanders to deviate from orders. The enormous quantitative superiority was expected to provide the energy needed to control any environmental variety.

Officers were instructed not to take big risks on to take their target at any price. On the contrary, if difficulties arose in order to decrease risks. There was no time pressure or obstacles that the military machine could not handle. The Lebanon War was the only Israel war where no heroes were awarded medals. In such a war, there was no need for heroism. For following orders, no one deserves special decorations. Of course, there were sacrifices and heroic stories, yet fewer in comparison to previous wars. In the War of Lebanon, those who sacrificed themselves were actually fighting the wrong kind of war.

However, this kin of sure war did not reduce casualties. Rather, it changed the balance between assault casualties and those due to overly concentrated forces, slow reactions, coordination difficulties and traffic accidents.

In the Lebanon War, morale and fighting spirits were not considered essential, yet their actual assignments made it difficult for solider to avoid moral issues. Indeed, the decision to fire on civilian areas where PLO fighters were hiding and firing from was left to lower level officers.

It is striking that even the main military goal of controlling the Damascus-Beirut Road, and thereby forcing the Syrian army to retreat from Lebanon, was not intended. By

failing to cause Syria a major setback, Israel's deterrence power over Syria was weakened.

E. The non-institutionalized process of learning

As we have seen, the government, the military, and the intelligence institutions interpreted the surprise in situational terms. In Israel society as a whole, however, two processes fostered fundamental self-awareness: the grass roots "protest" movements and the intellectuals. The former expressed a "Social crisis," the latter an "epistemological crisis".

The protest movements originated spontaneously from individual officers and soldiers from reserve units who had returned from the Yom Kippur War and felt a need to act. They began their activities in small spontaneous groups, which quickly swept up masses. Initially, they called for a public inquiry that would establish the reasons for the Yom Kippur surprise, identify those responsible, remove them from office, and begin the structural changes needed to prevent recurrence. Beyond these concrete demands, they fanned the socio-political process of searching for broader explanations than those that satisfied the government.

For a while, the government rejected their demands, but eventually public pressure led to appointment of the Agranat Commission with the limited task of investigating the events between October 6th and 12th. With this narrow time frame, the commission's conclusions and recommendations were necessarily situational, blaming the military and intelligence, while exonerating the political level.

Firing a few military officers did not satisfy the protest movements. They called for an inquiry at the highest governmental level for errors in policy, not just blame.

The protest movements targeted Moshe Dayan, the defense minister, demanding he take responsibility and resign. Eventually, he resigned, but no major change followed. The protest movements then found themselves pushed to other questions. However, the process of deciding which questions to pursue eventually splintered the movement. In time, the distinctions between it and the established political parties blurred.

Toward the 1977 elections, a new political formation emerged, the Democratic Movement for Change (Dash), claiming to be the continuation of the protest

movements. Some of the protest leaders joined or supported the new party.[20] However; the process of institutionalization dissipated the movement's social function. Ironically, by winning 15 seats in the election, to become the third largest party (after Maarch and the Likud), Dash was the primary reason for the Maarach's defeat, by taking most of their voters from it and then establishing a coalition with the Likud. Becoming part of the coalition left little spirit of protest in the movement.

Other fractions of the original protest movement, Shalom Achshav (Peace Now), continued as a nonparty social movement, expressing dovish opinions on the basic political-military issues that Israel faced after the war. The main issues were how much security Israel should sacrifice in order to achieve peace, and what Israel's policy on the West Bank and Gaza Strip should be. On these issues, they confronted another grass-roots movement, Gush Emunim, which had also begun as a small group of highly motivated people, in this case primarily religious. Gush Emunim called for and initiated the establishment of Jewish settlements in the West Bank and Gaza Strip. Soon it became a major force in Israel's political map.

These two opposing grass roots movements are symptoms of the same sociological crisis, Israelis growing awareness of their self -concept. Both are reform movements, using unconventional political means to pursue their causes. Both successfully challenge the old Zionist parties, calling for revival of Zionism.

For peace now supporters, self-awareness led to a search for immediate solutions to the conflict by negotiating peace agreements at the expense of security. Fro Gush Emunim, the same self-awareness lead to the conclusion that Zionist goals could only be realized by creating facts in the field, namely, reinstituting massive settlement on the West Bank and the Gaza Strip.

The War in Lebanon brought about a new wave of awareness to the fundamental questions of self-definition. Even during the first phases of Operation Peace for Galilee, Peace Now expressed itself unambiguously against the war. As the operation developed into what Israelis describe as a quagmire, new segments of society joined the protest, calling for immediate withdrawal. Mothers of soldiers organized a protest movement, the "Mothers' Movement for Immediate Withdrawal from Lebanon." Some reserves soldiers, when called to service, refused to serve in Lebanon and went to jail.

Colonel Eli Geva, a brigade commander, refused to continue holding command duties in Lebanon and was expelled from the army. The protest movements, even more than after the Yom Kippur War, proved to be effective forces, providing the lead for social and political processes that established leaders grasped only later on.

The Labor Party, whose leadership by and larger supported the limited goals of Operation Peace for Galilee, now condemned the moral basis of the war, its goals, and its conduct, calling for the abandonment of its far-reaching and unrealistic objectives.

Even among the government coalition, rejections to the conduct of the war increased and eventually Sharon was forced to resign. The withdrawal from Lebanon became only a question of time and circumstances.

If the protest carried the sociological crisis, the intellectuals shaped the epistemological crisis. In the pre-state Zionist movement and the first decade of the state, intellectuals were active participants in the thought and action of nation building. They played a central part in the formation of symbols and myths of the national revival.[21] The link between intellectual and political leaders were also strong. Israel's greatest leaders were themselves intellectuals and intellectuals were respected by the politicians for their contribution to the forming of Israel's identity.

In the late 1950's and early 1960's, a new generation of intellectuals, especially writers and artists, moved from the nation building to more individualistic expression. That shift meant leaving the heroic collective effort of defending and building the state, absorbing newcomers, and establishing the Sabra identity to the somehow disappointing the realities of the dream after it came true.

For Israelis in general and intellectuals in particular, the Six Day War created a sudden new opportunity to confront their "enemies," the Palestinians. This confrontation, after two generations of separation, caused a new wave of writing and art, expressing the new national self-awareness that came from meeting the "other".

In this respect, the intellectuals preceded the protest movements. One may say that they also preceded their time. What became, for most Israelis, a social crisis after the fundamental surprise of the Yom Kippur War, was for the intellectuals already an epistemological crisis after the Six Day War. Values and codes that had until then been clear and uncontroversial were now seen as relative and debatable. To some

intellectuals, the justification of the Zionist endeavor was now in doubt because of its affect on another people's rights.

The coherent self-concept of Israel as a besieged state was no longer relevant in the late 1960s and early 1970s. Instead, the intellectuals saw a self-concept full of unsolvable social contradictions and dilemmas: how to ameliorate the conflict between religious and secular Jewish society, and the tension between the orthodoxy and the state itself; how to bridge the western and oriental Jewish communities, each with different communal and cultural rules; how to maintain social values and social welfare achievements while meeting economic crises apparently requiring capitalistic conceptions. In addition to exacerbating old dilemmas, there were new ones: how to keep a state "Jewish" while still retaining Judea and Sumaria, but without creating a binational state or, alternatively, how to keep the state democratic while still controlling other people by force and not granting them full rights.

In 1970 in the midst of the War of Attrition, a satirical play, "The Bathtub Queen", became Israel's first public assault at the national consensus on defense and war issues. With this background, it took Israel intellectuals only a few days after the Yom Kippur War to begin calling for national self-examination.

A focal point in this process was intense questioning of national myths. Well-rooted notions on national heroes and historical events became subject to re-evaluation, including studies on Judah and Maccabee and the Hasmonean revolt, [23] Bar Kochba and his revolt, [24] the saga of Tel Hai, [25] the Biluim, [26] and figures such as Berl Katznelson, one of the "fathers" of the Zionist social movement. Some of these revisionist biographies became best sellers, [27] indicating public participation in this national self-examination.

In parallel with the breakdown of old myths and metaphor, new ones emerged after the Yom Kippur War, reflecting the sociological crisis. The most prestigious literary award in Israel was given in 1980 to two writers who describe their novels the decline of the "Israel Sabra myth". Amos Oz's hero in "Perfect Peace"[28] rises against his father, leaves his kibbutz to escape the desert. He leaves his parents' spiritual legacy as well as his wife to a young man, a survivor of the concentration camps who has immigrated to Israel and come to live in the kibbutz. The antithesis of the Sabra, this

scorned Diaspora relic emerges much more fit to cope with the new realities and thus succeed the founding fathers of the kibbutz and state. The novel ends with the hero accepting reality and returning home without his Sabra visions.

Yitzhak' Orpaz's[29] heroin "Young Youth" presents the destruction of a young urban North Tel Aviv man who has attempted to practice his Zionism by joining a group that tries to build a pioneer settlement, but fails because its founders do not have the will power to continue this endeavor. He returns to Tel-Aviv, falling into nihilism and suicide. Violent motorcycle groups ravage a central plaza in Tel Avib. Filling the vacancy left by the suicide—a symbol of the new power myth taking over the dead Sabra myth.[30]

This Literature represents a generation that lost its visions, on that is occupied with day to day materialists problems.[31] This type of individualism, which in most countries is considered natural, in Israel's reality (where the survival of the state is in doubt) is viewed as decadence. This perception of decadence reflects on Israel's problematic "self" no less than the two ideological solutions of Gush Emumin and Peace Now. The danger of rational pragmatism divorced from an ideological guidance and commitment is highest in current Israeli literature, poetry and art. It indicates that the greatest danger to Zionism and the state of Israel may be not in the following the wrong ideological path but in nihilism and individual decline.

By and large, intellectuals by themselves do not create fundamental change in a country's social and political concepts, let alone its political policies. (Even Voltaire failed in doing so.) They do, however, have a vital role in such processes by introducing metaphors that illustrate and clarify the essence of crisis. When without accompanying political leadership, however, such actions lead to nihilism and dissolution. In Israel, they have induced a decline in the optimistic national spirit and deep social concern over Israel's ability to solve its national crisis. Questions have been raised, concerning both the justice of the Zionist ideology and enterprise and the country's chances of survival. Waves of religious-mystic emotion and regression to ethnicity have risen from this distress. Politicians from Various parties have applied to these emotions, transforming them into a key force in Israel's political power struggles.

Since the creation of the state of Israel, its leadership has focused mainly on defense issues, providing, in the 1950's and 1960's, successful answers to Israel's defense dilemmas. They were less focused and less successful in solving societal problems. The Yom Kippur and Lebanon Wars revealed that the time of doctrinal consensus was over, even though the survival of the state was still uncertain. The image of the state in siege vanished and, in its place, came a more complex image, where survival depended still on Israel's ability to win wars, but also its ability to provide answers to its questions of self-identity. For the time being, Israel's leadership not only shared the confusion, but also increased it through its preference for situational solutions.

Chapter 5 Notes

1. A. Zeevi, "Egyptian Deception in the Yom Kippur Plan" (1980, Hebrew).
2. Shazli, El-Watan-El Arabic. Lebanon. January 11, 1979 (Hebrew).
3. Agranat Report, p. 33 (Hebrew).
4. Ibid, p. 32-33.
5. See R. K. Betts, "Analsysis, War and Decisions: Why Intelligence Failures Are Inevitable." World Politics. October 1978, pp. 61-89 and especially p. 73.

   To my mind, a careful analysis of the American intelligence community's achievements in surprise prevention will show clear distinction between their acceptable improvements in providing early warning of situational nature and their poor performance in providing indication of fundamental surprise. Following my understanding of this issue, I believe that no organizational reform within intelligence per se will bring about any substantial improvement in warning about fundamental surprises.
6. See Yachiot Acharonot. November 2, 1978 (Hebrew).
7. Several copies of a study undertaken by Israel's intelligence community were distributed in early November 1977. The study, entitled "Sadat in the Conflict:

Sadat's view on the Israel-Arab Conflict, Based on an Analysis of His Public Statements, October 1973 to October 1977," concluded that "… the decisive point in his view is clear—he is not prepared to recognize the legitimacy of Israel's existence or ready to conduct normal peaceful relations with Israel. He is not even willing to say that such relations are foreseen after any given period of time."

8. The official Israel name of the War in Lebanon.
9. A good description could be found in Z.Schiff and E.Yarri, "Israel's Lebanon War."
10. Although the lessons derived from the Yom Kippur War were never published, subsequently revealed details enable partial reconstruction and formulation of general impressions. The Agranat report itself is the primary source for such details. In the non-classified sections, there is clear inference to several lessons that the commission probably recommended in its classified sections.
11. A quote from Lieutenant General (res.) I. Rabin's discussion with the Author on August 5, 1980.
12. Z.Lanir, "The Effect of the Israeli-Egyptian Peace Treaty on Israel's Strategic Position"(1980).
13. Besides Dayan and Weizman, a third member of the Likud's first government had vast military experience, Vice Prime Minister Yigal Yadin. His influence on defense issues, however, was limited.
14. Brigadier General (res.) Mordechi Zippori was the only other member of the Likud party with military experience. He had served as deputy defense minister under Weizman during the first term of the Likud government. Sharom was considered far more experienced in leadership and had great political support. Zippori was not even appointed to the ministerial committee for security affairs. He became one of Sharon and Eitan's strongest critics, voicing his opposition to the war and its conduct in the government meetings during the war itself.
15. S.Peres, "A Reply to Menachem Begin: War of No Choice." Yediot Acharonot, August 24 1982 (Hebrew).
16. M.Begin, "War of No Choice or war by Choice." Maariv, August 20, 1982 (Hebrew).

17. Ibid.
18. K. Clausewitz, "On War" (1956).
19. In principle, denial wars are not necessarily moral than wars conducted with positive political goals. One may claim that a denial war also has political ramification—to defend a status quo—and that it has no restraints in using military power to achieve this undeclared political goal. One can also argue that only w war with positive political goals can achieve durable stability or a more lasting no belligerency. On this see F.Ikle, "Every War Must End: (1974).
20. "Dash" was created by unification of the protest movement Shinui (Change), and a new party set up by Professor Yigael Yadim.
21. No comprehensive research has yet been written on the relationship between intellectuals and politics in Israel. Important contributions in this direction are, however: N.Eisenstadt, "Israel Society" (London: Weidenfeld and Nicholson 1967), Chapter 10; and M.Keren, "Ben Gurion and the Intellectuals: Power, Knowledge and Charisma." Northern Illinois University Press, Illinios, 1983.
22. See, for example, Y.Talmon, "The Moral Stock-Taking" Haaretz, November 30, 1973.
23. Bezalel, "Bar kochba: The Hasmonite War" (1982, Hebrew).
24. Y. Harkabi (1981, Hebrew).
25. N. Rogel, "Tel Hai" (1979, Hebrew).
26. S. Laskov, "The Biluim" (19xx, Hebrew)
27. A. Shapira, "Berl: A Biography" (1980, Hebrew).
28. A.Oz, "Perfect Peace" (19xx, Hebrew).
29. I.orpaz, The young Youth" (19xx, Hebrew).
30. See: B. Zipar, "Walking from a Dream." Haaretz, p.18, 14-86 (Hebrew).
31. Examples in: I. Ben-Nev "After the Rain"; D. Shitz, "The Blue Grass"; Y. Butzan, "Jacob's Two Lives"; A.Sivan, "The Mulberry Tree"; I. Hameiri, "The Bricks." Regarding this phenomenon in literature, see Y.Oren, "the Roots of the Tiny Head," Haaretz, p.18, 1486. All These works are in Hebrew.

Chapter 6: Back to Theory

Real stories are unfinished ones; and reports on historical events inevitably have loose ends. This story of the Yom Kippur fundamental surprise is incomplete not only because we can never reach the bottom of any human issue, but also because Israel's learning process after its fundamental surprise is still incomplete.

As this book is being written there is still no clear evidence that Israel has successfully accomplished fundamental learning. Each of the three waves of surprise revelations was understood differently, as it occurred. The Yom Kippur surprise was understood mainly as a military surprise, the peace initiative surprise as a political one, and the Lebanese surprise as a moral one. This, these interpretations ranged from the particular to the general, from the concrete to the abstract, and from external to internal. In this sense, the current stage may represent the peak of the "social crisis." By now, more then ten years after the Yom Kippur War and the beginning of the learning process, there are indications that the "social" and "epistemological" crises are leading to self-awareness and fundamental learning.

However, social awareness of the social crisis and intellectual awareness of the epistemological crisis are by themselves insufficient for successful completion of the process. That process also requires leadership. The transformation from fundamental awareness to fundamental understanding and from there to formulation of a new policy is a transformation that requires leadership with vision and historical perspective, as well as the operational ability to translate abstract understanding into political terminology. Such leadership must combine vision with the ability to exceed the tangible parameters of resources and paradigms. This kind of leadership is still lacking in the Israel of the mid-80's.

As Israel strives to extract specific lessons from this experience, in this final chapter, I will attempt to extract some general theoretical lessons. Its first section suggests some general hypotheses on the function of fundamental surprises and the process of social change. The second offers conclusions and recommendations.

A. The Tangled Hierarchy: Paradoxical Relationships between the Situational and the Fundamental

Development of this case study relied on four paired concepts:

Signals versus noise. This contrast emerges in a variety of forms, from the well, but narrowly, defined concept in communication theory to its almost metaphoric interpretation as "conception versus misconception," as it is commonly used in the political science literature to explain strategic surprises.

Situational surprise versus fundamental surprise. This contrast goes beyond the common signal-versus-noise explanation, which applies only to situational surprises.

Situational versus fundamental changes. Situational changes can be detected and sometimes prevented by pre-designed "requisite variety" mechanisms, whereas fundamental changes are such that social systems can cope with them only through morphogenesis.

Situational versus fundamental thinking. While situational thinking has the characteristics of "problem solving" thinking, fundamental thinking is non-causal, holistic, and heuristic.

Self-awareness is a prerequisite for it and such awareness is rare. It can only evolve from a combination of a social crisis and an epistemological crisis.

In order to integrate these concepts, I will present two metaphors, that of the "tangled hierarchy," and that of "new order from chaos." [1]

A tangled hierarchy. In a simple hierarchy, each lower level qualifies its upper levels, but never vice versa. The addition of feedback mixes the levels to some extent, but in an orderly fashion, so that directionality of causation can always be traced. In a tangled hierarchy, the mixing of levels is so thorough that directionality of causation becomes irrelevant.

Consider the Epimendes paradox. Epimenides was a Cretan who said, " All Cretans are liars." This is an example of a tangled hierarchy. Initially, there appears to be a primary and secondary clause with a clear hierarchy. However, the secondary clause then reflects back on the primary in a manner that reverberates infinitely. If Epimenides is telling the truth, then he is lying; if he is lying, then he is telling the truth, ad infinitum. As a second example, consider Escher's Drawing Hands, in which a left hand draws a right hand and the right hand draws the left. Or, in Escher's Print Gallery, a young man inside a gallery looks at a picture of a ship that is anchored in the harbor of a town that

has a print gallery in which there is a young man looking at a picture of a ship anchored in a harbor, and so on.

These three examples of tangled hierarchies can help demonstrate the nature of "signal versus noise," in its various expressions, and in its relationship to the concepts of fundamental change, surprise, and learning.

In Drawing Hands, "signals versus noise" helps in understanding parts of the picture, but not its overall structure. At that level, it leads to infinite oscillation. In effect, this phenomenon reflects the basic information theory assumption that "signal" and "noise" can exchange roles, depending on the interpretative context. Similarly, the diagnostic value of information depends upon the questions being asked. As a result, information can be of high diagnostic value with regard to details and parts, but even the most accurate information is of very little diagnostic value in providing the way out of the paradox. One needs a holistic approach to understand such complex situations.

In Print Gallery, the interdependence of signals and noise emerges as confusion between the subject and object of an inquiry, or between the self and its environment. Again, this tangle only emerges when we shift from the parts of the picture to its whole.

What these pictures and the Epimenides paradox leave out is how to obtain this holistic view of self and environment simultaneously. Even the creators of paradoxes find it difficult to "get out" of their creations. Their only escape is by falsifying the paradox. In order to do so, they need to go beyond their own creations, comparing them with the paradoxes created by others. Although painters may have such points of comparison, societies do not, so they may go a long time without their fundamental understanding being challenged. In Israel's case, although awareness was triggered by fundamental surprises, fundamental learning only evolved out of the chaos of social and epistemological crises.

In his book, Godel, Escher, and Bach, [2] Hofstadter presented the idea of a tangled hierarchy (which he entitled "strange loops") quite eloquently. However, in searching for a way out, he restricted himself to rational algorithms. I believe that the way out requires chaotic crises, which mean novelty.

B. Surprise and Chaos

Research into chaotic phenomena is a new field, arising only in the last ten years, due mainly to the inspiration of mathematician John Miles'3 "catastrophe theory." Chaotic phenomena have been found even in very deterministic physical systems, such as simple electrical circuits, dynamos, and pendulums. Even pendulums, often thought have as the epitome of regularity; have been found to behave chaotically. The laws that govern the motion of pendulums are undoubtedly the fully deterministic laws of classical mechanics. However, very accurate measurements have found4 that minute changes in their driving frequency, to slightly below their natural frequency, produces unpredictable changes in their motion. These experiments proved that even the most detailed data do not allow predicting when the sudden shift from order to chaos will take place, or what will be the system's next motion, once it passes out of the chaotic mode.

Thus, unpredictable and undetectable changes can shift well-understood systems into the chaotic mode. Once the system is in that chaotic mode, its behavior bears no discernible relationship to its prior condition or even to the changes. In such systems, very small "situational" changes lead to quite different system developments. "Chaos" is usually understood in terms of the second law of thermodynamics, which states that every system moves from order to disorder (entropy), although systems from an old order into a new one. As Prigogine5 showed, even chemical systems may move into a new order through chaos. His theory explains a new chemical reaction called the Belousov-Zhabotinsky (B-Z) reaction. In an ordinary chemical reaction, chemicals in a dish will quickly mix, react, and then peacefully sit in chemical equilibrium, like marbles at the bottom of a spherical bowl. But in the B-Z reaction, depending somewhat unpredictably on the initial conditions, the system may act as a chemical clock, oscillating for a long time in a regular rhythm; or it may just make a beautiful spatial pattern.

The mystery is explained by the phenomenon of cross catalysis in which two or more chemicals mutually produce one another in a cyclical fashion while facilitating certain reactions.

Prigogine characterizes the dynamic structures seen in the B-Z reaction as examples of general phenomenon of order within chaos. In near-equilibrium situations, such as crystalline order of solids, if we supply energy to the system, it is expected to deviate increasingly from equilibrium and become disorderly; hence, the conventional

wisdom that entropy always increases. But Prigogine says that if we operate a complex system far from equilibrium by continually putting energy into it, not all the energy may be available to create new order. It is then order within chaos, because with chaos, entropy is also being created. Prigogine calls it dissipative order, because the entropy that is produced is dissipated into the environment.

According to Prigogine, the ingredients in the B-Z reaction enter into nonlinear positive-feedback interactions that produce runaways, or instability. But beyond the instability, there is new order. Order in spite of chaos, even order because of chaos.

These findings suggest that chaotic situations are much more common and systematic than we ordinarily think. Moreover, systems move between an ordinary and a chaotic mode as the result of indistinguishable situational changes. As a result, non-deterministic systems have two ways to escape chaos, one of which is by moving into a novel order (morphogenesis). In this light, chaos is not necessarily degeneration, but rather a stage in how systems cope with changes in their environment that are beyond their existing "requisite variety" capabilities.

The natural tendency of social systems is to keep the old order and, when they enter the chaotic mode, to try to return to the old order. Fundamental surprises show a social system that attempts to recover from chaos and is hopeless. Only then are fundamental questions about the nature of the system raised.

Russia and Germany after the chaos of World War I, Germany and Japan after their chaos in World War II, and the State of Israel after the Holocaust are examples of new social orders arising from chaos. But chaos, fundamental surprise, self-awareness, and fundamental learning are matters of degree. They may bear many forms.

During the 1950's and 1960's, England experienced fundamental surprises of a lower magnitude, when it became apparent that, despite World War II, its economy was weaker than that of its former rivals. This revelation, however, came very late and did not bring about substantial fundamental learning. There seem to have been multiple causes for this failure to learn. In part, it was because the fundamental surprise revealed itself gradually, so that no dramatic event was blatant enough to cause British society to accept fundamental changes. In part, it was because the chaos was not so extensive as

with the losers in the war. In part, it was because British society lacked the social characteristics needed for fundamental learning and change.

One might expect the United States to have some fundamental learning after discovering that the main problem that pushed Japan into World War II was U.S. refusal to provide access to essential raw materials. Indeed, these are now supplied to Japan freely. The United States did not, however, anticipate that the new Japan, arising from successfully with the United States in world markets. At the moment, it appears that the U.S. has not extracted fundamental lessons from this postwar surprise, perhaps because the U.S. has not confronted enough chaos.

When fundamental surprises appear, they seem bound together. When fundamental surprises emerge through situational ones, the relation between the two is similar to that between peeled plaster and the exposed cracks in the wall. The plaster that fell enables us to see the cracks, although it does not explain their creation.

The U.S. stock market crash in 1929 and the resulting Great Depression may serve as an example of this relationship between situational and fundamental surprise. The crash itself was a situational surprise. Experts knew, in principle, of the possibility. However, knowing it in principle did not prevent them from being surprised when the crash actually occurred. The subsequent depression, however, cannot be explained by the fall of the stock market alone.[6] The Stock Market Crash only revealed and triggered a much wider phenomenon, the depression, which was a fundamental surprise. This fundamental surprise was not only economic; it developed into an identity crisis affecting how Americans saw themselves as a society. The roaring twenties came to an end along with the dream of unlimited resources. These cases also illustrate the slowness of fundamental learning. The United States economy and society had not recovered from the depression when another fundamental change occurred, World War II. The U.S. economy and society suddenly tuned its attention to face the external threats.

Nations and organizations avoid fundamental learning when they retreat from chaotic mode to the very activities that caused the chaos. For example, Prohibition was passed in the U.S. to restrict drinking. Unfortunately, this led to increased drinking and the rise of organized crime. Clearly, the law touched the fundamental American "Self," one principle of which was protecting personal freedom (e.g., "my drinking within limits

does not affect your freedom, but your law affects my freedom"). If the value of freedom was still at the core of American "Selfhood", the law was doomed to fail, and bring about chaos in the relationship between citizens and the authorities. Eventually, the law was abandoned. To those American leaders who believed in its necessity, both the failure of their law and the failure of their gloomy pictures of what would happen to America without the law should have caused some self-examination. However it did not. One explanation is that people are good at finding reasons why a chosen course of action will eventually have positive results, even though the situation is still becoming worse.

No learning after fundamental surprise can also occur when societies or organizations have the resources needed to suppress disorder and thus to return the system to its old order, without learning any fundamental lesson. That may be the oil crisis surprise, which were not only a situational shortage but also part of a fundamental crisis regarding the respective roles of the developing countries and the western industrial countries. Viewing this as a situational crisis saved the West from even considering fundamental lessons. Nations can, as Albert Wohlstetter described it, "optimize on the wrong curve."[7]

C. Conclusions and recommendations

Over the last 30 years, research has focused on how we gather and process information in order to make decision despite the limitations of individuals and organizations. However, very little is known about decisions that people and organizations derive from processes that are not dominated by information, those relying on personal and social experience, wisdom, ethics and aesthetics.[8] Nor is much known about human and social creativity or about how novelty is diffused in societies and organizations. The role of leadership, the function of intellectuals, of slacks and buffers, of institutions' capacity for novelty and evolution has begun to gain attention in organizational theory in the last few decades only. In the study of intelligence and surprises, these topics have attracted little attention at all.

Students of surprise phenomena ask themselves why people, organizations, and nations are trapped by surprises even when they have information that, in hindsight, seems sufficient for the prevention of the surprise.

Very little attention has been given to the questions of how and what can be learned after being subjected to a surprise.

Social science research tends to search for homological statements. Its objective I to produce conditional statements of universal validity.[9] To learn about fundamental thinking, one should first look for what Clifford Greetz called "thick description."[10]

The study of fundamental surprise requires a development approach, emphasizing historical background and stages of growth. There is a need to conceive of cognition as a social endeavor, looking holistically at the society of organization, including its morals, values and stylistic characteristics. It requires studying and explaining why societies and organizations fail to transform from one fundamental understanding to another as the environment changes.

This study was only one step in this direction. It is, therefore, a little pretentious to conclude the study with conclusions and recommendations. Nonetheless, practitioners may find some of the ideas thought provoking.

1. The agnosia syndrome

Some scholars view non-democratic countries, such as the U.S.S.R., as having a greater tendency to encounter surprises. We may add that they also seem less able to learn from them. Nonetheless, exposure to fundamental surprises reflects issues of technology and organizational structure beyond any ideological.

The precision and speed of modern arms technology, and the need to react in condensed real-time; push armies to become more organized and more technologically driven. At the same time, organizations and societies can find themselves in a deep economic crisis if they fail to keep up with the competition in the price, performance, and reliability of their products. Both these trends encourage thinking in terms of analytical rationality that, in turn, requires the assumption of transitivity between all levels and dimensions of the organization. As a result, responsibility for decision-making is distributed to individuals throughout the organization who feel no need for a holistic view of their self in relation to their environment as a candidate for operating efficiently.

Fundamental thinking, which means tolerance towards contrasting tensions within the system, is an obstacle of efficiency. As a result, technology may reduce the ability of societies and organizations to cope with fundamental surprise. Along with Herbert and Stuart Dryfus, [11] I believe that we are now facing a kind of social "agonosia," a neurological disorder exhibiting a total dependence upon rational understanding, where everything must be decomposed before it can be understood.

2. The growing gap between fundamental changes and fundamental learning

The study revealed a growing gap between the paces of the fundamental changes, which is increasing, and the ability of societies and organizations to adjust their fundamental thinking, which has not improved and may have decreased.

I believe that we have already reached a stage where the rate of fundamental changes in the environment is faster than our ability to change our assumptions about ourselves in relation to this environment. In this case, "bounded rationality,"[12] "grooved thingking,"[13] "muddling through,"[14] and "maze policy behavior"[15] not only represent common behavior, but also become the only reasonable ones.

3. The tendency to hang on to old policies

The study emphasizes that, eve after a fundamental surprise becomes evident, and it is difficult for politicians to learn from it. Decision makers not only tend to extract only situational lessons from surprises, but also to "retreat to commitment" to the old doctrine and policy. The literature of policy science has already documented and explained this tendency. When the lessons of the surprise are not so clear, clinging to the old is even stronger. By definition, fundamental surprises are not clear-cut. As a result, the surprise is explained as an inevitable result of betraying the old doctrine or policy.

Dror[13] justly points out that the barriers to "policy paradigm reconsideration" are very strong because of the "tendency of past success to reinforce policy paradigms while dismal failures result either in entrenchment and escalated commitment to policy orthodoxies… or in panic learning, both of which inhibit policy reconsideration and the debunking of policy orthodoxy, as needed for high-quality policymaking."

To these arguments, this study adds another explanation. Politicians and decision makers also tend to prevent fundamental learning simply because they do not have the

time needed for such learning. When a surprise occurs, it is almost always accompanied by a crisis needing immediate attention and decisions.

4. Intelligence's role in surprise prevention

National intelligence can be an effective tool for sensing and warning of situational changes. It is not an appropriate tool for foreseeing fundamental changes, because those surprises are rooted in issues of the national self-image that are beyond intelligence's jurisdiction. The attempt to put this responsibility on the shoulders of intelligence community creates a confusion that decreases the odds of its successful performance in early warning tasks.

5. Fundamental surprise warning

The practitioner must recognize that early warning procedures alone can prevent situational surprises, but cannot, by their very nature, prevent fundamental surprises. Fundamental surprises are much more difficult to detect. However, it is not impossible.

Situational surprises have precursors with high diagnostic values; fundamental surprises do not. However, fundamental surprises do build up over a long period of time, creating a long incubation period, which offers opportunities for early diagnosis.

One approach to performing such diagnosis is to commit oneself to constant study of the nation's shared model of its self in relation to its environment. Implementing that commitment would require the development of novel methodologies.

A second approach is to examine the signs of fundamental surprises, going beyond the tendency to learn just the immediate lessons.

A third lesson is to exploit positive surprises as well as negative ones for their potential for learning, even though they do not cause political or social crisis.

A fourth component is being aware of environmental changes that might have fundamental implications.

6. Maintaining historical perspective.

Organizational memory is a prerequisite for fundamental learning. Most governments and organizations exhibit short memory. Even when records are

kept, they are only partial and usually concentrate on decisions, agreements, and deliberations of official meetings. There is no mechanism for recording and tracking how wise those decisions and estimations proved to be. In hindsight, recollection and extraction of lessons in institutional history is partial and biased.

Derivation of lessons from an institution's history is not a straightforward task. Decisions and actions can prove to be "good" or "bad" for reasons other than the fundamental model's truthfulness. Principles may be concretized in many ways. The same event may be judged differently according to different perspectives. One ought to be cautious and aware of the possibility that what seems to be fundamentally different is actually a situational variation or vice versa.

7. Education toward fundamental thinking

Detecting incubation of fundamental surprise, difficult and it is, is the easy part of fundamental surprise prevention. Moving from diagnosis to prevention is not something that can be organized. Rather, it requires movement of an entire culture which seek to balance efficiency and freedom, to provide slack and buffers, to maintain an open mind toward new metaphors and criticism and to accept diverse political and life perspectives within the system.

Achieving such balance is a long-term process. It requires increasing the awareness and knowledge of politicians and the public as to the functions of leadership, fundamental thought, chaos, and surprises.

Leaders must learn to operate under the constant pressure of fulfilling two tasks: dealing efficiently with situational changes and changing the system as a whole. In doing so, there is no algorithm. Rather, the process is always subjective and unique.

It is important to show caution and sensitivity and recommendations relating to fundamental social thinking. Any attempt to organize fundamental thinking tightly contradicts its primary essence. As a result, the main need is to legitimate and increase awareness of fundamental thinking. Situational thinking can be systematically learned. With fundamental thinking one can at best create the necessary conditions, such as educating toward tolerance for uncertainty, [18] accepting that which cannot be proven,

not requiring that everything be measured. It means respecting subjective experience and knowledge as important resources.

It means challenging the well-rooted scientific paradigm of calculated rationality as being the only legitimate form of thinking. It is important to recognize that intelligence which comes through understanding personal and social experience. Subjective knowledge may be more relevant for fundamental thinking than the objective knowledge of rational positivism amenable to calculations.

It is also essential to recognize that fundamental thinking requires situational understanding. Given a proper place, situational understanding can sharpen holistic thinking. Fundamental and situational thinking cannot be deduced from one another, nor can they be combined into a single order. Rather, tension and inconsistency between the two modes of thought are necessary for survival.

Chapter 6: Notes

1. I want to thank Prof. Amit Goswami, who brought to my mind that interesting similarities exist between my hypotheses and the concepts of "tangles hierarchy" and "order from chaos."
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