

AD-778 776

A SURVEY OF THE LITERATURE ON LIMITED
STRATEGIC WAR AND STRATEGIC NUCLEAR
WAR TERMINATION

Mark B. Schneider

Starford Research Institute

Prepared for:

Deputy Chief of Staff for Military Operations

April 1974

DISTRIBUTED BY:

NTIS

National Technical Information Service
U. S. DEPARTMENT OF COMMERCE
5285 Port Royal Road, Springfield Va. 22151

Report Categories:

1. **Research Memorandum (RM) and Final Report:** Research Memoranda and Final Reports are documents that present the results of work directed toward specific research objectives. The reports present the background, objectives, scope, summary, and conclusions of the research as well as the general methodology employed. The reports are reviewed and approved by the Director of the Strategic Studies Center or higher official of the Institute and constitute satisfaction of contractual obligations.

a. Reports which satisfy contractual obligations. When a IN is used for this purpose it presents final research findings relating to a specific research objective. It differs from the RM or Final Report only in that for contractual convenience it has been reproduced and bound in SSC grey covers rather than formally edited, printed, and bound in standard SRI covers. The reports are reviewed and approved by the Director of the Strategic Studies Center or higher official of the Institute.

3. **Informal Note (IN):** An Informal Note is an informal working paper containing initial research results of specific findings on a particular subtask of a study. The IN is designed to record and control the input to the various studies at an earlier stage of the report process than a Technical Note. This class of paper is designed primarily to replace the use of internal SRI memoranda in communicating with the client or in obtaining staff comments. All data submission to the client that are not TNs and RMs are submitted as Informal Notes. The note is reviewed and approved by the Director of the Strategic Studies Center and is not used to satisfy contractual obligations.

4. **Symposium Paper (SP):** A Symposium Paper is a document presented as part of, or a record of, symposia held at SRI or may be a document written by an employee of SRI for symposia attended elsewhere. The report is reviewed and approved by the Director of the Strategic Studies Center or higher official of the Institute. If appropriate, Symposium Papers would be used to satisfy contractual obligations.

ia

UNCLASSIFIED

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER SSC-TN-2240-8/SSC-TN-ISR-5	2. GOVT ACCESSION NO.	3. RECIPIENT'S CATALOG NUMBER AD-778776
4. TITLE (and Subtitle) A SURVEY OF THE LITERATURE ON LIMITED STRATEGIC WAR AND STRATEGIC NUCLEAR WAR TERMINATION		5. TYPE OF REPORT & PERIOD COVERED Technical Note
7. AUTHOR(s) Mark B. Schneider		6. PERFORMING ORG. REPORT NUMBER
9. PERFORMING ORGANIZATION NAME AND ADDRESS Stanford Research Institute/Strategic Studies Center 1611 N. Kent Street, Arlington, VA 22209		8. CONTRACT OR GRANT NUMBER(s) DAAG39-73-C-0058
11. CONTROLLING OFFICE NAME AND ADDRESS Office, Deputy Chief of Staff for Military Operations, Department of the Army Washington, D. C. 20310		10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS SRI Project 2240 Task Order 73-2
14. MONITORING AGENCY NAME & ADDRESS (If different from Controlling Office)		12. REPORT DATE Rev. April 1974
		13. NUMBER OF PAGES 219
		15. SECURITY CLASS. (of this report) UNCLASSIFIED
		15a. DECLASSIFICATION/DOWNGRADING SCHEDULE
16. DISTRIBUTION STATEMENT (of this Report) Approved for public release; distribution unlimited.		
17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)		
18. SUPPLEMENTARY NOTES		
19. KEY WORDS (Continue on reverse side if necessary and identify by block number) Limited Strategic Warfare War Termination Deterrence Forward Strategy		
Reproduced by NATIONAL TECHNICAL INFORMATION SERVICE U S Department of Commerce Springfield VA 22151		
20. ABSTRACT (Continue on reverse side if necessary and identify by block number) This note is a compendium of summaries of the significant unclassified liter- ature on the subject of limited strategic warfare and war termination. The material on limited strategic warfare has been categorized by four schools of thought on the problems of strategic deterrence and defense derived from previous SRI/Strategic Studies Center research. The literature on strategic war termination is presented as a separate section.		

DD FORM 1473

EDITION OF 1 NOV 65 IS OBSOLETE

UNCLASSIFIED

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)



STANFORD RESEARCH INSTITUTE

SRI Washington D.C. Office - U.S.A.

STRATEGIC STUDIES CENTER

SRI Project 2240 and ISR

Technical Note
SSC-TN-2240-8
SSC-TN-ISR-5

June 1973
Revised April 1974

**A SURVEY OF THE LITERATURE ON LIMITED STRATEGIC WAR
AND STRATEGIC NUCLEAR WAR TERMINATION**

By: MARK B. SCHNEIDER

Prepared for:

OFFICE, DEPUTY CHIEF OF STAFF FOR MILITARY OPERATIONS
UNITED STATES ARMY
WASHINGTON, D.C. 20310

and

INSTITUTE SPONSORED RESEARCH

CONTRACT DAAG39-73-C-0058

Approved:

Richard B. Foster, Director
Strategic Studies Center

Approved for public release: distribution unlimited.

ABSTRACT

This note is a compendium of summaries of the significant unclassified literature on the subject of limited strategic warfare and war termination. The material on limited strategic warfare has been categorized by four schools of thought on the problems of strategic deterrence and defense derived from previous SRI/Strategic Studies Center research. The literature on strategic war termination is presented as a separate section.

Disclaimer:

The findings in this report are not to be construed as an official position of SRI or its client unless so designated by other authorized documents.

Contractual Task:

This report is submitted in partial fulfillment of research under Task Order 73-2 of Contract DAAG39-73-C-0058 and published using Institute funds.

FOREWORD

For many years the discussion of strategic concepts has been dominated by the concept of Mutual Assured Destruction. This strategic concept dominated our defense planning and procurement and most of the strategic dialogue. Its central premise--that the function of strategic nuclear weapons is solely to deter strategic attack by providing a convincing capability to destroy the attacker as a 20th century society--inhibited the development of damage limiting capabilities and the search for response options other than nearly genocidal population attacks.

This note is part of a continuing series of studies of the problems of limited strategic response options now underway at the SRI/Strategic Studies Center. It was begun as part of the work year 1972 research program in support of SSC-TN-8974-78, War Termination Concepts and Strategic Nuclear Response Options, which attempts to create a framework for the analysis of limited strategic response options and their linkage to the concept of war termination. The survey was completed under work year 1973. Although the original intent was to utilize the material as background for the work year 1973 response option study, it was decided to publish the summaries at Institute expense since they proved to be very helpful in obtaining a historical perspective on this important problem.

Mark B. Schneider is the principal author. The report benefited from the suggestions and criticism of Mrs. Barbara N. McLennan and M. Mark Earle, Jr.

Richard B. Foster
Director
Strategic Studies Center

CONTENTS

ABSTRACT	iii
FOREWORD	v
LIST OF ILLUSTRATIONS	xi
LIST OF TABLES	xi
I INTRODUCTION	1
A. Objective	1
B. Methods of Analysis	1
II DETAILED REVIEW OF THE LITERATURE ON LIMITED STRATEGIC WAR, BY SCHOOL OF THOUGHT	11
A. The Minimum Deterrence School of Thought	13
• Arthur Waskov, "The Theory and Practice of Deterrence"	15
• George E. Lowe, <u>The Age of Deterrence</u>	17
• Ralph Lapp, <u>Kill and Overkill: The Strategy of Annihilation</u>	19
B. The Assured Destruction School of Thought	21
• "Interview with Secretary of Defense McNamara," <u>Life</u> , 29 September 1967	23
• Remarks by Secretary of Defense Robert S. McNamara before United Press International Editors and Publishers, San Francisco, California, 18 September 1967	25
• Morton Halperin, "The Good, The Bad and the Wasteful"	29
• <u>Statement of Secretary of Defense Robert S. McNamara before the Senate Armed Services Committee on Fiscal Year 1969-1973 Defense Program and 1969 Defense Budget</u>	31
• <u>Adam Yarmolinsky, The Military Establishment--Its Impact on American Society</u>	35
• <u>Walter Slocombe, The Political Implications of Strategic Parity</u>	37
C. The Graduated Deterrence and Tactical Nuclear Emphasis Advocates	39
• Fred Charles Iklé, "Can Nuclear Deterrence Last Out the Century?"	41

● Michael May, "Some Advantages of a Counterforce Deterrent"	47
● Philip A. Karber, "Nuclear Weapons and 'Flexible Response'"	49
● <u>Statement of Secretary of Defense Robert S. McNamara Before The House Armed Services Committee on The Fiscal Year 1964-1968 Defense Program and 1964 Defense Budget</u>	51
● William F. Kaufman, <u>The McNamara Strategy</u>	55
● <u>Statement of Secretary of Defense Robert S. McNamara Before a Joint Session of The Senate Armed Services Committee and the Senate Subcommittee on Department of Defense Appropriation on the Fiscal Year 1965 Defense Program and 1965 Defense Budget</u>	57
● Raymond Aron, <u>The Great Debate: Theories of Nuclear Strategy</u>	59
● Leonard Beaton, <u>The Western Alliance and the McNamara Doctrine</u>	61
● Alain C. Enthoven, "U.S. Defense Policy For the 1960s"	65
● Robert S. McNamara, Collection of Statements in Col. Robert N. Ginsburgh, <u>U.S. Military Strategy</u> . .	67
● Arthur Lee Burns, <u>Ethics and Deterrence--A Nuclear Balance Without Hostage Cities?</u>	71
● Neville Brown, <u>Nuclear War: The Impending Strategic Deadlock</u>	75
● Herman Kahn, "Escalation and Its Strategic Context"	77
● Herman Kahn, <u>On Thermonuclear War</u>	83
● Herman Kahn and Anthony J. Wiener, <u>The Year 2000, A Framework for Speculation on the Next Thirty-Three Years</u>	87
● D. G. Brennan, "Soviet-American Communication in Crises"	89
● Edward C. Stillman, "Civilian Sanctuary and Target Avoidance Policy in Thermonuclear War"	93
● Bernard S. Albert, <u>A Direction for Strategic Deterrence in the 1980's</u>	95
● Bernard S. Albert, <u>"Objective Deterrence": A White Paper on Expanded Realistic Deterrence</u>	99
● Denis Menos, "Beyond SALT"	105
● James M. Roherty, <u>Decisions of Robert S. McNamara--A Study of the Role of the Secretary of Defense</u> . .	107
● General Lewis W. Walt, <u>America Faces Defeat</u>	109
● Francis P. Hoerber, <u>SALT I: The Morning After</u> . . .	111
● "Statement of Dr. William R. Van Cleave Before Senate Armed Services Committee"	115
● Malcolm Hoag, <u>Alternative Strategic Force Planning Criteria: Some Implications for Nuclear Guarantees, Proliferation and Alliance Diplomacy</u>	117
● Thornton Reed, "Nuclear Tactics For Defending a Border"	121

• Richard B. Foster, "Unilateral Arms Control Measures and Disarmament Negotiations"	123
• Henry Kissinger, <u>The Troubled Partnership: A Re-Appraisal of the Atlantic Alliance</u>	125
• Clark C. Abt and Ithiel de Sola Pool, "The Constraints of Public Attitudes"	127
• Arthur Lee Burns, "The Problem of Alliances"	131
• Klauss Knorr, "Limited Strategic War"	135
• Morton A. Kaplan, "Limited Retaliation as a Bargaining Process"	139
• Herbert D. Benington, "Command and Control for Selective Response"	143
• Herman Kahn, "Some Comments on Controlled War"	147
• T. C. Schelling, "Comments"	151
• Thornton Reed, "Limited Strategic War and Tactical Nuclear War"	155
• Morton Halperin, <u>Limited War in the Nuclear Age</u>	159
• Edward Teller, "The Nuclear Race and the Problem of Controls"	163
• Statement of Frank Armbruster on U.S. Defense Policy, 3 September 1971	165
• Robert A. Devine, <u>The Arms Debate</u>	167
• Col. Ralph L. Giddings, Jr., "Battle Management for Strategic Weapons Systems"	169
• D. G. Hoag, "Ballistic Missile Guidance"	171
D. The Forward Strategists and Massive Deterrence Advocates	173
• Gen. Nathan F. Twining, <u>Neither Liberty Nor Safety--A Hard Look At U.S. Military Strategy</u>	175
• Gen. Curtis E. LeMay and Maj. Gen. Dale O. Smith, <u>America is In Danger</u>	179
• Gen. Thomas S. Power, <u>Design For Survival</u>	183
III DETAILED REVIEW OF THE LITERATURE ON WAR TERMINATION	187
• Clark Claus Abt, <u>The Termination of General War</u>	189
• Thomas C. Schelling, <u>Arms and Influence</u>	197
• Herman Kahn, William Pfaff, and Edmund Stillman, <u>War Termination Issues and Concepts</u>	203
• Herman Kahn, "Thermonuclear War Termination"	221
• Alexander L. George, David K. Hall, and William Simons, <u>The Limits of Coercive Diplomacy</u>	227
• Fred Iklé, <u>Every War Must End</u>	229
• W. S. Bennett, <u>Hostilities Objectives of Theater Forces</u>	233

ILLUSTRATION

1	Schools of Thought on Nuclear Weapons, 1965	3
---	---	---

TABLES

1	An Escalation Ladder	77
2	Various Thermonuclear Attacks	79

I INTRODUCTION

A. Objective

The objective of this paper is to summarize, categorize and indicate the major conclusions of the contemporary literature on limited strategic war and war termination. The question of limited strategic warfare options was raised by President Nixon when he indicated his dissatisfaction with the all-or-nothing aspect of the strategy of Mutual Assured Destruction. The President declared:

I must not be--and my successor must not be--limited to the indiscriminate mass destruction of enemy civilians as the sole possible response to challenges. This is especially so when that response involves the likelihood of triggering nuclear attacks on our own population. It would be inconsistent with the political meaning of sufficiency to base our force planning solely on some finite--and theoretical--capacity to inflict casualties presumed to be unacceptable to the other side.¹

There is a vital link between the subjects of war termination and limited strategic operations. Strategic operations are the only military actions that can clearly threaten survival of the United States or the Soviet Union as national entities. When either state chooses the option of a limited strategic operation it is likely to do so in the hope that by refraining from all-out strategic warfare, the conflict can be terminated short of national entity destruction of one or both sides (i.e., war termination).

B. Methods of Analysis

For the purposes of this study, limited strategic war is defined as any strategic nuclear conflict initiated with an attack of less than

¹ U.S. Foreign Policy For The 1970's: Building for Peace, A Report to Congress by Richard Nixon, President of the United States, pp. 171-172 (Washington: Government Printing Office, 1971).

all-out character. The attacker utilizes only a fraction of his strategic capability and refrains from destroying his victim as a national entity. If the victim observes similar limitations in his reply, the resulting situation is defined as limited strategic warfare.

The objective of war termination is defined as the cessation of the conflict before the exhaustion of weapons or delivery systems by one or both sides and short of the destruction of one or both sides as national entities.

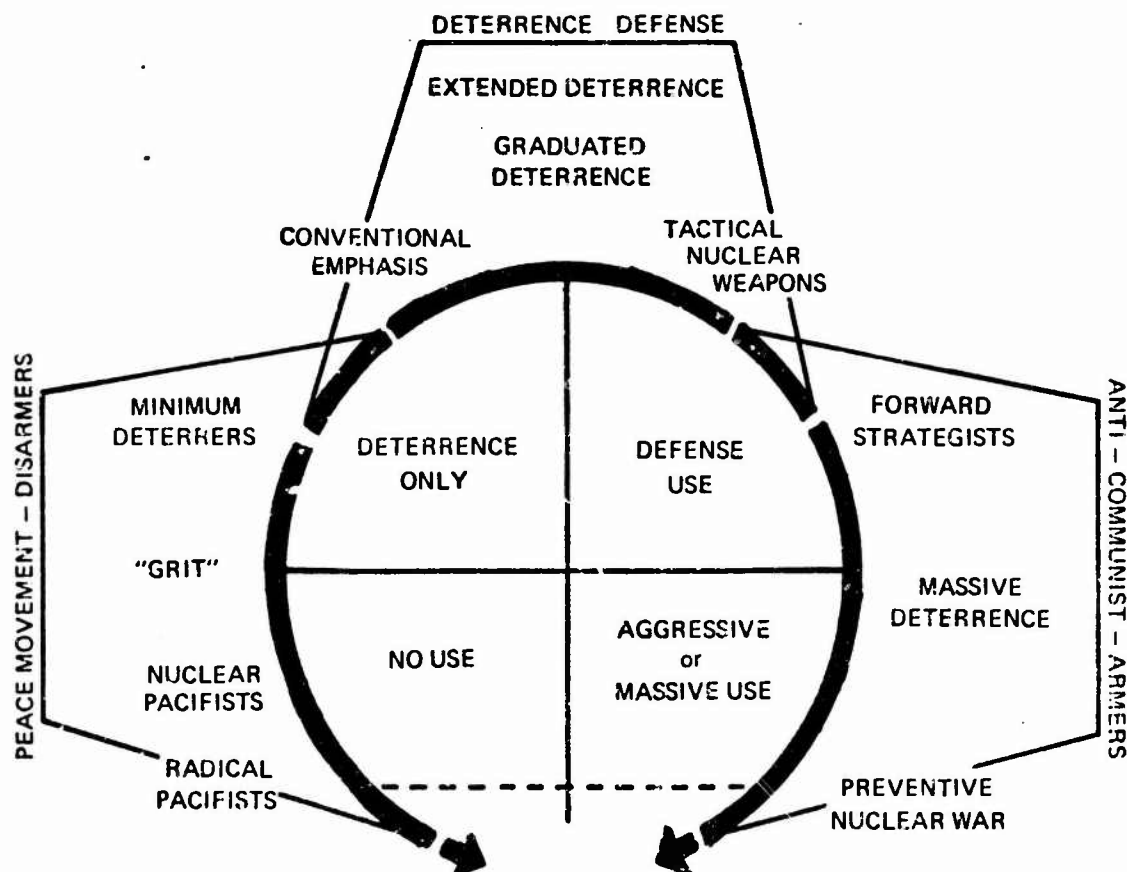
The literature on the subject of limited strategic warfare and war termination is presented in a series of summaries containing four analytical sections. These sections include:

- The views of the author concerning the likelihood, political and technical feasibility, and form of limited strategic war and war termination
- An analysis of the controlling assumptions behind the views of the various authors concerning limited strategic war and war termination
- An analysis of the implications of the author's views on the problem of war termination
- An outline of the author's recommendations to strategic force options.

This study utilizes some of the concepts developed in the SRI-SSC study entitled Problems Presented By Conflicting Views Concerning Nuclear Weapons, which has categorized the spectrum of views concerning the utility of nuclear weapons into three "communities" and ten individual schools of thought.¹ Figure 1 presents this spectrum and the categories of thought which comprise it.

The general outline of the spectrum of views presented in Problems Presented By Conflicting Views Concerning Nuclear Weapons has been adopted here with some modifications, for the presentation of the

² J. H. Morse, W. R. Van Cleave, and H. W. Rood, Problems Presented By Conflicting Views Concerning Nuclear Weapons, Summary Report, Technical Report TR-5104-2, SRI/Strategic Studies Center, Menlo Park, California (August 1965).



PEACE MOVEMENT - DISARMERS				DETERRENCE & DEFENSE				ANTI-COMMUNISM - ARMERS	
Radical Pacifists	Nuclear Pacifists	GRIT	Minimum Deterrence	I Conv. Emphasis	II Graduated Deterrence	III Tac Nukes	Forward Strategists	Massive Deterrence	Preventive Nuc War
Muste Sibley Pickett S. Lens CNVA AFSC WRL	Fromm Russell Snow Pauling Waskow SANE WSP	C. Osgood Melman Etzioni Blackett Kennan SANE UWF	Berthe Wiesner Lapp Morgenthau COMM OF 500	M. Hoag Gilpatrick Liddell-Hart Jas. King Halperin Wohlstetter Acheson	Kahn Schelling R. Osgood Taylor	Kissinger Brodie Norstad Teller H. Agnew	Strausz-Hupe Possony Niemeier Kintner LeMay Thos. White	Radford Power Goldwater	Anti-Communist Crusaders
<u>Liberation</u> <u>Correspondent</u>	<u>Conflict Resolution</u> <u>Bulletin of Atomic Sci.</u>		<u>World Politics</u> <u>Military Review</u>		<u>Orbis</u> <u>National Review</u>				

Abbreviations: GRIT: Graduated Reciprocation in Tension-Reduction
 CNVA: Committee for Non-Violent Action
 AFSC: American Friends Service Committee
 WRL: War Resisters League
 SANE: Committee for Sane Nuclear Policy
 UWF: United World Federalists

Figure 1 SCHOOLS OF THOUGHT ON NUCLEAR WEAPONS, 1965

literature on limited strategic war. Adjacent groups (such as the Graduated Deterrence and Tactical Nuclear Emphasis schools and the Forward Strategist and Massive Deterrence school) have been grouped together. This has been done because of the sparseness of the literature and the fact that there is little difference between these schools on the issues of limited strategic war and war termination. For the purpose of classifying views on limited strategic war and war termination, the following categories (from left to right) have been established.

1. Minimum Deterrence: This strategy entails the belief that the use of nuclear weapons will mean the total destruction of the belligerents involved or even of the entire world. Damage limitation through active or passive defense is impossible. A city avoidance strategy will not work because the Soviets will respond to any limited American attack with a full countercity response. The Soviet Union is not a very aggressive or expansionist state. A small deterrent force able to destroy a few enemy cities in retaliation is all that is needed to deter enemy attack. Deterrence must ultimately be replaced by disarmament.
2. Assured Destruction-Conventional Emphasis: These theorists believe that victory in a strategic nuclear war is impossible because no impenetrable defensive systems exist and each side will nullify the attempt of the other to limit damage to itself by expanding their offensive forces. To deter a nuclear attack one needs the ability to destroy the attacker as a 20th century society after absorbing a surprise attack. The interests of the Soviet Union and the U.S. conflict in many areas but both sides have a common interest in preventing nuclear war and reducing the burden of armaments.
3. Graduated Deterrence-Tactical Nuclear Emphasis: Individuals in this category entertain views ranging from slightly modified Assured Destruction-Conventional Emphasis to significant interest in damage-limiting capabilities and theater tactical nuclear defense. Strategists belonging to this school believe that we must have credible capabilities to counter threat along the entire spectrum of conflict. They tend to assume that the Soviet Union is opportunistic and will exploit power vacuums if we allow them to be created. They differ somewhat on what capabilities we actually need to counter the Soviet threat.

4. Forward Strategist-Massive Deterrence: These individuals tend to believe that the Soviet Union is extremely aggressive and that the ability to win a strategic war if it occurs is as important as the ability to deter such a conflict. We can achieve such a capability through a counterforce strategy, active and passive defense and a city avoidance strategy if war occurs. We must have the ability to disarm the Soviet Union in a strategic war.

A much wider body of literature was scrutinized in the preparation of this survey than is actually presented in it. An attempt was made to broadly survey the unclassified defense literature of the 1960s--the major military and defense journals, books and monographs on strategic warfare and the problem of deterrence and defense. To warrant inclusion in this survey a work had to mention the subject of limited strategic warfare or war termination. A few exceptions to this rule were made to broaden the base of this study and to provide contrast since strict adherence would leave two important schools of thought on the problems of national security affairs--the Minimum Deterrence school and the Assured Destruction school--virtually unrepresented.

The literature on limited strategic warfare and war termination is extremely limited. Groups on the edge of the spectrum of views on national strategy show very little interest in these problems. This survey could not find a single reference to the subject in any school of thought clearly within the "Peace Movement-Disarmer" community and very little among the "Anti-Communism-Armer" community. Most of the literature has been spawned by a single school of thought--the Graduated Deterrence school.

The following summaries are thus in no way intended to represent a cross section of the literature on the problem of strategic warfare. Since it deals specifically with the problem of limited strategic war and war termination, most of the works surveyed are from the Graduated Deterrence school. There is no suggestion here that these works represent the views of most strategic defense analysts, political leaders, or the public at large. They are clearly a minority view. But since they are the only group that has given these questions any

serious thought, a study of the problem must begin with their literature. Among the major conclusions of the theorists of the Graduated Deterrence school are:

- Limited strategic warfare may seem bizarre but it may occur and we should take the subject seriously.
- The whole problem of limited strategic warfare is dominated by the existence of national entity destruction capabilities. The political leaders of the United States and the Soviet Union realize the fact that a wrong decision on their part can mean the end of the existence of the nations as 20th century societies. The very fact that unlimited strategic warfare threatens national entity survival may result in their choice of a limited strategic option in a very intense nuclear crisis.
- While national leaders will be basically rational in such a crisis, complete rationality will not exist. Emotion must play some role and reactions of human beings in such a situation are simply not predictable.
- The unpredictability of human reactions combined with the incredibly swift time factor involved in a limited strategic warfare, the destructiveness of nuclear weapons, the possible destruction of command and control systems, the "fog of war," and the difficulty of intrawar communications will make war termination very difficult to achieve.
- Limited strategic warfare is a deadly exercise in risk taking and in bearing and inflicting pain in which the most ruthless, aggressive, and least rational side is most likely to win. There is some analogy to the game of "chicken."
- The realm of uncertainty in such a conflict is enormous. No theory, plan, or strategy can guarantee success or termination. Indeed, rationality is no sure guide to success and may even be counter productive.
- It will probably be more difficult to control or terminate such a war as the degree of damage increases. Hence attacks on urban centers should be avoided if possible.
- Small differences in relative military capability may not be very important but large variations can be. The critical factors in the military equation are counterforce capability (hard target kill, retargeting capability, ASW), the balance in strategic defensive capabilities, strategic reconnaissance capability and the ability of strategic forces to survive for protracted periods.

The Minimum Deterrence school of thought and the Assured Destruction school usually ignore the subjects of limited strategic war and strategic war termination. When they discuss it at all they usually reject it

out of hand. This attitude is a logical conclusion from their basic premises concerning the problems of strategic warfare, deterrence, and defense and their perceptions concerning Soviet aims and ambitions. They believe that any form of strategic warfare would be an unmitigated disaster and hence oppose any efforts to achieve a warfighting capability.

There is a similar attitude among members of the Forward Strategist-Massive Deterrence school of thought. These individuals tend to assume that a major conflict with the Soviet Union is very likely and hence are more concerned about procuring the strategic capabilities to win an all-out strategic or strategic counterforce war than about the ability to conduct limited strategic operations. Some of them see any discussion of limited operations as a sign of weakness.

Most of the literature on limited strategic war comes from the Graduated Deterrence school because they believe that we must have credible deterrent capabilities along the entire spectrum of conflict. Since a limited strategic attack can occur we must be prepared to deter it or, in the view of some, utilize the threat of it to achieve our national security objectives. Members of this school tend to assume that there is nothing automatic about nuclear war outcomes dictated by the mere bilateral possession of nuclear arsenals. Hence we should be concerned about limited strategic war options.

If one accepts the basic premises of the Graduated Deterrence school, it is difficult to quarrel with their conclusions. Yet these conclusions are very preliminary in nature and do not really tell us very much about the problems of limited strategic war or war termination, or what options we should procure to deal with these contingencies. Moreover much of the literature deals with the weapons technology of the early 1960s and hence is now obsolete. In that period a limited strategic war would have had to be fought with megaton weapons of relatively poor accuracy and counterforce capability but whose survivability tended to be very high in relation to similar weapons today. The strategic balance was overwhelmingly in favor of the United States. Today it is technically feasible to fight a limited strategic war with kiloton weapons of extremely high accuracy and counterforce

capability. The potential effectiveness of strategic defensive forces is significantly improved. The Soviets have achieved a strategic position of at least parity and some would argue outright superiority. There have also been significant changes in the international political milieu. Yet there has been relatively little speculation on the implications of these changes for the problem of limited strategic warfare and war termination.

One might suggest that there are several critical areas for future analysis on these problems. They include:

- An analysis of the possible motivations of a Soviet limited strategic attack on the United States.
- An analysis of emerging Soviet options for limited strategic attacks and their possible effects on U.S. ability to respond and maintain protracted alerts and on postattack recovery problems.
- A theoretical analysis of U.S. response options including likely Soviet reactions to various U.S. responses.
- A study of the Soviet target system to determine the feasibility of proposed U.S. limited strategic counter-attack options with currently programmed U.S. strategic and general-purpose forces.
- A study of the survivability, penetration capability, and hard target kill capability of programmed U.S. forces.
- A study of evolving strategic weapons technology and how this can be incorporated in U.S. forces to improve their ability to implement limited strategic options.
- A study of feasible modifications of U.S. strategic capabilities to improve our ability to implement limited strategic options.

The President has indicated his dissatisfaction with sole reliance on the SIOP response which is entailed in the strategy of Assured Destruction. Yet presently programmed U.S. strategic forces were designed and procured primarily for an Assured Destruction strategy. Hence their ability to implement limited strategic options is limited.

If the United States is to have any option in a nuclear crisis other than a full SIOP response, the critical questions must be thought out in advance and the necessary planning and perhaps strategic force modifications done. Some of these modifications may be relatively

cheap but others could be expensive. There may be some implications for U.S. policy planning in SALT II. The issues of MIRV, hard target kill, and the National Command Authority defense are involved. These are politically controversial issues.

Whether or not we procure a capability for limited strategic options is a political question. Limited strategic war may be impossible, as most people believe. But we should face the basic fact that if we reject this and so do not plan for options, we will not have them in a nuclear crisis.

II DETAILED REVIEW OF THE LITERATURE ON LIMITED STRATEGIC WAR,
BY SCHOOL OF THOUGHT

//

Preceding page blank

A. The Minimum Deterrence School of Thought

Arthur Waskov, "The Theory and Practice of Deterrence," in Henry A. Kissinger, ed., Problems of National Strategy (New York: Frederick A. Praeger, 1965)

Summary

Counterforce strategies are not possible. Bomber bases are often located near cities and enormous civilian casualties would result from counterforce attacks. If evacuations of cities were ordered, preemption would probably occur. The Minuteman ICBM will probably not work. It is critically dependent on the reliability of the missile to operate off of trains. Twentieth century warfare shows a tendency to escalate. Pressures for a first strike would be very high if such a strategy were adopted. The cost of the civil defense program required for a counterforce posture would be several hundred billion dollars. Even then there would be thirty million dead.

Minimum deterrence is not technically feasible because submarines are not invulnerable and they could have counterforce capability in their missiles. The present U.S. strategy of piling one invulnerable deterrent on top of the other is the worst alternative of all. What the United States needs is a decision for deterrence by disarmament.

Controlling Assumptions

The author makes a series of very dubious assumptions about the effectiveness of various U.S. weapon systems including Polaris survivability and the Minuteman system (the workings of which he apparently did not understand). The possibility of a finite deterrence posture and its workability as a strategy is ignored. The problems of disarmament are ignored.

Implications for War Termination

The subject of war termination is not addressed but the implication of this article is that it is not possible short of total destruction.

Recommended Strategic Force Options

The author recommends the rejection of all deterrent theories and the adoption of disarmament as a national strategy.

George E. Lowe, The Age of Deterrence (Boston: Little, Brown and Company, 1964).

Summary

Since 1945 we have seen a struggle in the field of defense policy between Utopians (who believe nuclear weapons have great utility, victory in nuclear warfare is possible, and controlled nuclear warfare is possible) and traditionalists who believe the opposite. The traditionalist believes the only function of nuclear weapons is to deter their own use and that conventional forces are needed to fight all other types of war.

The McNamara strategy of counterforce as outlined in his 1962 Ann Arbor speech was nothing but updated massive retaliation (p. 240). It has considerable overtones of preventive war. The speech said that "thermonuclear counterforce would be used to solve our outstanding political-military problems" (p. 241). Conventional forces had only marginal utility according to this doctrine. The whiz kids felt they could obtain political power from U.S. strategic weapons superiority by the adopting of this strategy. McNamara, however, was soon to back away from it and by 1963 he had adopted essentially a strategy of deterrence along the lines of traditionalism (p. 246).

Controlling Assumptions

The author comes out strongly on the side of those he calls traditionalists. He believes thermonuclear warfare means total destruction. Controlled thermonuclear war is impossible. Counterforce strategies are now technically impossible and are becoming more so. The Soviet Union will never fight a controlled or counterforce war.

Implications for War Termination

Termination of nuclear war short of mutual total destruction is assumed to be impossible.

Recommended Strategic Force Options

The United States should adopt a pure deterrence strategy based primarily on nuclear submarines. We should improve our limited war capability especially with additional aircraft carriers. We should not procure any additional strategic bombers or land-based missiles. We must improve our counterinsurgency strategy and capabilities.

Ralph Lapp, Kill and Overkill: The Strategy of Annihilation (New York: Basic Books, 1962).

Summary (of Views of Limited Strategic War)

"The concept of limited nuclear war is even harder to work out. It is almost like asking for a return to the age of chivalry when combatants fought only on weekends and carefully avoided engaging towns in their combat" (pp. 84-85). How long would such a gentleman's agreement last on a battlefield? What will men do in the heat of battle? There is very little to support McNamara's limited general war strategy. The Soviets have rejected it.

Controlling Assumptions

Over the last 17 years our quest for security through weaponry has resulted in an incredible arsenal of multimegaton bombs numbered in the tens of thousands which would destroy most of the world if they were used. Most of them are very dirty because they derive most of their energy from fission yield. Nuclear warfare would mean total devastation. Defense against nuclear attack is impossible. Civil defense is desirable but cannot change things very much. The fact that the people are ignorant of this situation has allowed it to come into being.

Implications for War Termination

The termination of general war at less than massive casualties for both sides is probably impossible.

Recommended Strategic Force Options

Scrap all ICBMs and strategic bombers as Polaris submarines become operational and completely depend on Polaris for our strategic war deterrent. Scrap all tactical atomic weapons. Fallout shelters should be constructed because in the event of war people would be better off in them than outside them. Nuclear weapons and nuclear material production should be curtailed together with most strategic weapon research and development expenditures. Military space systems are fantasy and should not be developed.

B. The Assured Destruction School of Thought

21

Preceding page blank

"Interview with Secretary of Defense McNamara," Life (29 September 1967), reprinted in U.S. Congress, Joint Committee on Atomic Energy, Scope Magnitude and Implications of the United States Antiballistic Missile Program (90th Cong., First Sess., 5 and 7 November 1967) (Washington: Government Printing Office, 1968).

Summary

In response to questioning, Secretary McNamara stated that the Sentinel ABM would deter China from a preemptive attack or defend against it, and would reinforce our guarantees in Asia. It would obviously be ineffective against the Soviet Union and they certainly would realize this. Thus it would not spur the arms race (pp. 114, 116). In addition, it gives us the option of a relatively cheap defense of our Minuteman force against a Soviet disarming attack. "We considered a number of alternatives--adding more missiles, a new manned bomber, or even a new strategic missile system. We reached the conclusion that one of the most effective steps we could take, and the one least likely to force the Soviet in a counter-reaction, was the deployment of an ABM system which would protect our Minuteman sites, so that our one deterrent is not diminished" (p. 118).

Nuclear superiority means little because of the enormous destructive power of nuclear weapons. Despite our nuclear superiority and the great efforts we have made to achieve it, the Soviets still have the ability to absorb any American first strike and strike back with a devastating blow. We will add large numbers of MIRVs in a few years but this will not change anything. ABM effectiveness is quite limited against a massive attack. There is nothing we can do to give ourselves a first strike or damage limiting capability (pp. 115-117).

The Soviets' decision to deploy their ABM was based on bad advice given back in 1962. The system has very low effectiveness and the Soviets have recently acknowledged this. The Soviet Union is following what is in some respects an aggressive foreign policy but we still have a common interest with them in curtailing the arms race and avoiding nuclear war (pp. 117-118).

Controlling Assumptions

Nuclear weapons if used will mean the total destruction of both sides. There is no technological development in the near future that will change this situation of mutual vulnerability. The offense will probably always have an advantage over the defense.

The author assumes that because the United States did not fully exploit strategic superiority the Russians will not. Secretary McNamara assumes that the Russians would not have been more aggressive in the '40s and '50s had we not had our strategic superiority.

Implications for War Termination

The problems of limited strategic war and war termination are not discussed.

Recommended Strategic Force Options

Secretary McNamara recommends that we go along with the then programmed U.S. strategic weapons programs: deployment of MIRV, the Sentinel ABM, etc. He argues that we should not deploy a new manned bomber or a heavy ABM to protect our cities against a Soviet attack. He believes we should enter arms control talks with the Soviet Union.

Remarks by Secretary of Defense Robert S. McNamara before United Press International Editors and Publishers, San Francisco, California, 18 September 1967, in U.S. Congress, Joint Committee on Atomic Energy, Scope, Magnitude and Implications of the United States Antiballistic Missile Program (90th Cong., 1st Sess., 6 and 7 November 1967) (Washington: GPO, 1968).

Summary

No sane leader wants nuclear war. Nuclear strategy is very complex. Our basic policy to deter a deliberate nuclear attack on the United States through a strategy of Assured Destruction--the ability to inflict unacceptable damage on the attacker after absorbing a surprise attack. We must be conservative in our force calculations for this objective. Such a capability deters attack by making it suicide for the aggressor (pp. 105-106).

The United States cannot and will not permit another nation to get a first-strike capability against it. We possess 4,000-megaton-range nuclear weapons in our strategic forces compared to 1,000 for the Soviets. Our forces are superior but we do not have a first-strike capability. We believe the Soviets are not trying to obtain a first-strike capability against us. Neither the Soviet Union nor the United States can attack the other without being destroyed in return. No foreseeable technology can change this (p. 106).

Megatonnage or numbers of missiles are not the measurement of the power of strategic nuclear forces. It is the number of separately targetable warheads. We have this superiority but we have more than we planned because we overestimated the rate of the Soviet buildup of strategic forces and hedged against it. This action-reaction phenomena is the main driving force behind the arms race. The Soviet buildup is reaction to our buildup of the early 1960s (pp. 106-108).

Strategic forces play a very limited role (but vital) in our defense posture. Conventional forces must be maintained to deal with a wide spectrum of lesser conflicts. Even in the age of our nuclear monopoly our weapons did not deter a wide range of Soviet aggression (p. 108).

It is not sensible for either side to attempt to achieve first-strike capability because the other side will react to nullify it. ABM technology

is not adequate to limit damage. It can be penetrated by throwing more warheads at it than it has interceptor missiles. This can always be done. If we had an ABM that would form an impenetrable shield we would deploy it even if it cost \$400 billion but there is no ABM of this type even on the technological horizon. We will add penetration aids and MIRVs to penetrate the Soviet ABM (p. 110).

We have decided to deploy a light ABM system as a defense against China. This ABM will be no threat to the Soviet Union. The Chinese are making very substantial progress in nuclear weapons and may soon test an ICBM. This ABM would allow us to extend protection to our Minuteman ICBM force against Russian attack (p. 111).

What the world needs in the 22nd year of the nuclear age is "a new race towards reasonableness" (p. 112).

Controlling Assumptions

The role of nuclear weapons on the strategic level is to deter attack and limit damage if the attack occurs. Because of the superiority of the offense, a damage limiting posture will probably not be feasible. If we could deploy an effective ABM (effectiveness defined as zero penetrations) we would do so irrespective of the cost. But deploying an ineffective ABM (one that can be overwhelmed by increasing the magnitude of the offense) merely creates pressures for the other side to increase its strategic offensive forces which in turn threatens our strategic forces and the arms race spirals upward. The arms race is assumed to be very threatening to the security of both sides.

The author assumes that strategic superiority has little value because it did not deter Soviet aggression during the '40s and '50s when the United States first had a monopoly and then great strategic superiority. This is based on the assumption that the Soviets could make no more use of strategic superiority than the United States did--that perceived limited value of strategic superiority to the United States resulted from some inherent limitation to the value of strategic superiority rather than from U.S. views on the propriety of the utilization of strategic nuclear threats.

Implications for War Termination

The problems of limited strategic war and war termination are ignored by the author.

Recommended Strategic Force Options

Secretary McNamara recommended procurement of forces adequate for Assured Destruction (using conservative planning criteria) but that the United States not deploy a heavy ABM or other damage limiting forces for defense against Soviet attack. He advocates the deployment of the Sentinel ABM for defense against a Chinese attack (on marginal grounds) and the maintenance of U.S. strategic superiority over the Soviet Union in the number of deliverable warheads.

Morton Halperin, "The Good, The Bad and the Wasteful," Foreign Policy
(spring 1972).

Summary (of Views on Strategic Warfare)

Our deterrent capability rests on our Assured Destruction strategy. The Sufficiency criteria are essentially based on Assured Destruction. We must assume that the Soviets think about war outcomes in the same way we do and "We assume the Soviet leaders' decision to launch nuclear war will depend on the amount of damage the United States can inflict on the Soviet Union after a Soviet first strike" (p. 81).

Controlling Assumptions

The threat of nuclear city destruction will deter any enemy from a nuclear attack on us. All that is required to deter an attack is the ability to inflict about 25 percent fatalities upon the attacker after absorbing the surprise attack. Strategic nuclear forces have no other utility.

Implications for War Termination

War termination is not a problem because either the war will terminate in massive destruction or it will not occur at all.

Recommended Options

Procure a capability for Assured Destruction and nothing more. MIRV and ABM are not needed.

Statement of Secretary of Defense Robert S. McNamara before the Senate
Armed Services Committee on Fiscal Year 1969-1973 Defense Program
and 1969 Defense Budget (Washington: Government Printing Office, 1968).

Summary

Strategic nuclear forces "no matter how versatile and powerful they may be, do not by themselves constitute a credible deterrent to all kinds of aggression..." (p. 41). Damage limitation in a nuclear war would be extremely difficult if not impossible. The basis of our deterrent is our retaliatory capability, or our Assured Destruction capability. This is the "ability to inflict at all times and under all foreseeable conditions an unacceptable damage upon any single attacker or combination of aggressors--even after absorbing a surprise attack" (p. 47). An Assured Destruction capability was defined as the ability to destroy 25 percent of the Soviet population and one-half to two-thirds of their industrial capability and the ability to destroy the 50 largest Chinese cities (p. 50). The use of strategic nuclear forces is not a desirable response by the West to anything less than all-out Soviet aggression (p. 42).

Forces for damage limitation can also contribute to the deterrence of the Soviet Union especially if they make a surprise attack more difficult, but a "Damage Limitation" posture to be really effective must be "capable of reducing damage to truly nominal levels--and as I will explain later, we now have no way of accomplishing this" (p. 47). Strategic superiority is not important so long as both sides have an Assured Destruction capability (pp. 48-50, 52-53).

The size and character of an Assured Destruction force are determined by the size and character of the target system it is to be used against, and the threat to their pre-launch survivability (p. 51). The number of independently targetable warheads is the best measure of strategic force capability. Megatonnage and numbers of missiles are secondary factors (p. 52). Our strategic forces are superior to the Russians in this capability. "But I must caution that 'superiority', or indeed any 'superiority' realistically attainable, the blunt, inescapable fact remains that the Soviet Union could still effectively destroy the United States, even

after absorbing the full weight of an American first strike" (p. 52).
No damage limiting measures we can take will change this basic fact.

Under these circumstances it is important that both the Soviet Union and the United States take steps to end the arms race. We should begin strategic arms limitation talks with the Soviets as soon as possible (p. 53).

We must distinguish between ABM systems designed to defend against a Chinese attack or to protect the U.S. Minuteman force against a Soviet attack and systems designed to defend our cities against a large Soviet attack. These systems are very different and have different strategic implications (p. 52).

Controlling Assumptions

One can calculate the outcome of a nuclear war with sufficient accuracy so that detailed calculations of this sort can be the basis of force procurement decisions. The technology for an effective damage limiting strategy does not now exist and probably will not exist in the future. All that we accomplish by deploying damage limiting forces is to stimulate the arms race. The Soviets will react against these measures by increasing the size and the sophistication of their strategic forces (pp. 53, 63-65). The strategic balance does not mean very much as long as both sides retain an Assured Destruction capability.

Implications for War Termination

The subject of limited strategic war or war termination is not discussed. The basic Assured Destruction strategy is in many respects challenged by the possibility of limited strategic war. In a limited strategic war the balance of military power may be very important.

Recommended Strategic Force Options

The United States should maintain an Assured Destruction force (based primarily on strategic missiles both land and sea based) but not take significant steps towards damage limitation against the Soviet Union.

We should deploy a light ABM (Sentinel) to give us a virtual damage denial capability against the Chinese, and the option to defend our Minuteman forces. We should continue the deployment of our MIRVed Minuteman III and Poseidon forces, maintain our existing bombers (phase out most of the B-52s and phase in a smaller number of FB-III) but not develop a new heavy bomber or deploy a heavy ABM system. We should modernize our air defense system because this could be done at a cost that is cheaper than maintaining the present system.

Adam Yarmolinsky, The Military Establishment--Its Impact on American Society (New York: Harper and Row, 1971).

Summary (of Views on Nuclear Weapons and Strategy)

"The employment of nuclear weapons--conceded to threaten an all-out nuclear holocaust and hence human survival--has been unacceptable in the major military crises faced by the United States since World War II... . For the first time in history, men had invented weapons too terrible to use" (p. 99).

Both the United States and the Soviet Union have Assured Destruction capabilities. This could change as a result of one side completely neglecting R&D and the other side making a technological breakthrough, but this is unlikely to occur. The most probable result of the arms race is the continuation of nuclear stalemate (pp. 101-103).

There is a limit to what nuclear weapons can deter. It probably ends with a massive attack on Europe. If we do not believe we will use them for something the other side is not likely to believe this (p. 106).

The research and development community tends to want a maximum effort. Intelligence uncertainties also contribute to the pressure for nuclear expansion. Civilians generally want to deter nuclear war and the military generally wants to prepare to fight it. We always talk about the enemy threat. It might be useful to think about our threat to the enemy (pp. 106-107).

Controlling Assumptions

The military industrial complex represents a great danger to our society. The most likely outcome of strategic weapons competition is nuclear stalemate. Technological breakthroughs are unlikely to occur. Military planning tends to stimulate the arms race because it is conservative. Uncertainties of various types also tend to stimulate it. The arms race is very dangerous to prospects for human survival. It should be brought under control by negotiations.

Implications for War Termination

The problem of strategic war termination is not addressed. Preparations for strategic war fighting are seen as one of the driving forces behind the arms race.

Recommended Strategic Force Options

The United States should maintain its Assured Destruction capability but should not attempt in any way to achieve a damage limiting capability against the Soviet Union since this effort achieves nothing and stimulates the arms race. Research and development expenditures should be tightly controlled. We cannot afford to develop every new weapon that comes along into a weapons system. The United States should enter strategic arms limitation talks with the Soviets as soon as possible.

Walter Slocombe, The Political Implications of Strategic Parity (London: Institute for Strategic Studies, Adelphi Paper No. 77, 1971).

Summary (of Views of Limited Strategic War)

The emergence of a Soviet Assured Destruction capability makes American counterforce attacks unlikely. In the first place an attacker would have to be assured that his victim shared his value system. If the weaker side believed the stronger side possessed a first strike capability to the extent that it would leave it no option except forcing mutual suicide it would be much more likely to focus on the risks of its own position than on the risks faced by the stronger side. A situation could exist where the stronger side was obsessed by fears of it. This could make both sides more cautious. Yet such a balance would not be desirable. A force that is capable of an effective less-than-all-out attack is likely to look like a first strike force in the eyes of the weaker side (pp. 10-11).

This would create pressure for crisis preemption. In the long run the weaker side could correct its survivability problems and in the short run it might attempt to reduce the political potential of the stronger power's force by threatening in an extremely belligerent form, talking about massive retaliation, launch on warning, etc. It might even threaten limited strategic attacks (p. 11).

Massive counterforce attacks are clearly not a U.S. option today. The reduced vulnerability of the Russian force, not its increase in size, is the significant factor. The feasibility of the less-than-all-out strikes is greatest when the victim is faced with an all-or-nothing option. This is unlikely to occur. Because of the destructiveness of nuclear weapons it is likely that an Assured Destruction force will be large enough to reserve a minimal Assured Destruction force and strike back in a limited fashion with the remainder. The residual minimal Assured Destruction force of the victim would deter a third strike by the attacker. The direct losses from such an attack would probably be enough to deter the attacker. He would have to believe that intra-war deterrence would work for him and against the victim. It is unlikely that any nation would launch such an attack except for very large gains--the domination of the international system (pp. 11-12).

Large-scale disruptive attacks run the risk of all-out war. Small attacks do not do enough damage to justify their risks. Only the prospect of a fully successful full first strike would tempt a nuclear aggressor because of the immense risks involved. As long as the ratio of missiles killed per missiles expended is under one to one, we have an automatic deterrent to attack (p. 12).

Controlling Assumptions

The current and foreseeable strategic balance is technically stable in the sense that mutual Assured Destruction capabilities exist. Nations will not risk nuclear war unless they have a first strike capability. Even then they will be cautious. The risk of limited strategic strikes is too great unless the goal is world domination and this is unlikely.

Implications for War Termination

The issue of war termination is not specifically addressed although the author seems to feel that the capability to launch an even minimal countervalue fourth strike will deter any enemy from launching a second round of a limited nuclear exchange and quite possibly deter him from initiating the nuclear exchange in the first place.

Recommended Strategic Force Options

Numerical advantages in ballistic missiles have little value and hence the United States should not try to retain an advantage in numbers of missiles. Strategic force survivability is the important factor and we should retain it. ABM and MIRV deployments add uncertainty to the strategic environment and destabilize it. New Soviet military capabilities will have little effect on NATO or the American deterrent to Soviet attack in Europe. Counterforce strategies are becoming technically infeasible.

C. The Graduated Deterrence and Tactical Nuclear Emphasis Advocates

Fred Charles Iklé, "Can Nuclear Deterrence Last Out the Century?"
Foreign Affairs (January 1973).

Summary

Despite our tendency to ignore this problem, the threat of devastating strategic nuclear warfare hangs over us. The great anguish over the possibility of nuclear war has significantly declined since the middle 1960s and this tendency has been encouraged by the SALT accords (p. 268).

The objectives of the SALT accords as seen by the vast majority of officials of the U.S. government, civilian experts, and congressional leaders are to preserve mutual deterrence between the United States and the USSR and to stabilize it by curtailing the competition in strategic arms. The objective of the protection of cities is held to jeopardize deterrence. Massive reductions in armaments or general disarmament are considered dangerous and utopian (p. 269).

Under this dogma, strategic nuclear forces must be designed almost exclusively for deterrence of a surprise disarming attack and must be capable of doing so in a single swift massive attack, and this retaliation must be capable of killing a major fraction of the Soviet population. We must take no action that would deny the Soviets the ability to kill a major fraction of our population. We will take no action to defend our cities "and even hobble our capability to destroy Soviet nuclear arms" (p. 268). Soviet theorists, on the other hand, reject these views and believe that they must be prepared to fight a nuclear war (p. 268).

The concept of the balance of terror is now obsolete. "No matter how cataclysmic the threatened 'assured destruction,' those calculated decisions which our deterrent seeks to prevent are not the sole processes that could lead to nuclear war. We simply cannot know which of the various potential causes is most probable--whether it be a coherently calculated decision to attack or an 'irrational' decision or technical accident" (p. 269). The current approach seeks only to deter the rational decision, because it is easier to calculate what is required to deter a rational decisionmaker (p. 270).

The danger of this approach is that it involves mirror imaging. "It uses our ideas about how surprise attacks could be designed, our estimates of what weapons the Soviets have and how they would perform, our latest findings about the performance of our own weapons, and, as soon as we discover a mistake in these calculations, our corrections" (pp. 269-270). This approach assumes that the Soviets think in a manner similar to the way we do and that Soviet leaders will be absolutely rational. We do not assume they might be somewhat less rational, or misled. We prepare for a Soviet leader who would be tempted to attack if his calculations--ignoring fallout and his ability to stay in power in the chaotic conditions of the postwar world--showed that he could launch a successful surprise attack. We ignore the possibility of a Soviet leadership who might be somewhat less than rational in an acute crisis or who might rely on counter or intrawar deterrence to prevent an American President from implementing a countercity response (pp. 270-271).

The U.S. attitude towards strategic problems was shaped by our experience at Pearl Harbor. We should remember, however, that the Japanese decision to attack us at Pearl Harbor was less rational than any Russian decision to attack us and rely on counterdeterrence. Men who acquire power are sometimes "willing to see their nations destroyed in the pursuit of causes which only they and their henchmen espouse" (p. 272). In some dictatorships, living dangerously is part of the revolutionary creed.

The danger of accidental or unauthorized use of nuclear weapons will always exist. Very little high-level thought goes into determining what mechanism can cause accidental war. Even when they are discovered, safeguards rarely come without costs. There are problems, for example, in our worldwide communications system, as illustrated by the Liberty incident. Polaris and Poseidon submarines suffer from severe communications difficulties (p. 273). Can they in a global crisis be capable of responding to commands to launch and simultaneously be safe against accidental or unauthorized launch? The peril may be even greater on the Soviet side and is further complicated by our doctrine of countercity targeting. It has even been suggested that we launch our missile forces

on ambiguous warning. This is no passing aberration. Institution pressures among the military will keep driving in this same direction. In Russia there may be even more pressure towards this posture because of the emphasis their military puts on preemption. It is even possible that a race in reducing launchtime, and hence safeguards, will result (pp. 274-275).

The dogma of Assured Destruction resulted from the early years of the Cold War when Western deterrent capabilities against a seriously feared Russian attack on Western Europe were based on SAC. It was believed a swift atomic attack would cause an industrial society and its war effort to collapse. With the development of Soviet atomic capabilities the first priority of SAC became the destruction of Soviet nuclear capacity in a prompt and massive attack. Current U.S. forces are a legacy of this requirement and the development of the Mutual Assured Destruction philosophy in 1963 (pp. 276-277).

The shift of this new strategy was based primarily on our view of the arms race and our hope that our adoption of it would result in reciprocal Soviet action. We began to curtail our capabilities for a disarming attack and the interception of Soviet forces which survived it. By 1971 the Senate explicitly voted against money for the improvement of the accuracy of our missiles (p. 277).

There is a basic contradiction in our force posture. Part of our force is designed along the old concept of threatening a disarming strike in response to an attack on NATO. "But our global deterrence posture now has to meet the opposite requirement: to eschew, and through agreement mutually to preclude, a nuclear disarming capability" (p. 278). New political reasons for the overseas basing of strategic forces have developed. Our tactical atomic weapons are an "anachronism of obsolete posture and technology" (p. 278). To make matters worse, U.S. forces are not primarily designed to survive a surprise attack but to retaliate quickly (p. 278).

The idea that retaliation must be swift, massive, and aimed at cities is a legacy of World War II. The technology for avoiding civilian casualties while destroying industry did not yet exist. The distinction between soldiers and civilians had been blurred by the war. This led us into thinking in terms of killing millions of people for the purpose of deterrence. In the late 1950s this was modified by the idea of city avoidance counterforce concept and this was officially adopted by McNamara in 1962; but after 1963 he began to promote the idea of "Assured Destruction." At first this may have been a bureaucratic budget tactic but the pressure of Vietnam made it a dogma (pp. 279-280).

Calculations made to back the Assured Destruction concept considered only prompt fatalities and ignored fallout and other indirect effects. Hence we assume a rather peculiar sort of Russian leader--a man who would be deterred by prompt effects but not deterred by less easily measurable weapons effects. The question of the possibility of targeting industry and sparing people has scarcely been raised. While the Nixon Administration has refrained from flaunting the gruesome statistics, it still uses the same calculus (p. 280).

The terminology "assured destruction" hides the nature of what is being discussed. "Assured genocide" would be a better term. "A moral perversity lies hidden behind the standard formula: in the event this 'aggressor' attacks we must 'retaliate by knocking out his cities.'" Thomas de Torquemada, who burned 10,000 heretics at the stake, could claim principles more humane than our nuclear strategy; for his tribunals found all his victims guilty of having knowingly committed moral sin" (p. 281).

Preservation of the idea of deterrence by "threat of mutual genocide may impede the reduction of tension and distrust between the two nuclear superpowers that we all hope for" (p. 281). The perspective of this concept is wrenching on the officialdom of both nations (p. 282). Yet nothing condemns us to continue such a situation. Modern technology provides a way out of it (p. 282).

"The potential accuracy of 'smart' bombs and missiles and current choice in weapons effects could enable both sides to avoid the killing

of vast millions and yet inflict assured destruction on military, industrial, and transportation assets--the sinews and muscles of the regime initiating war" (p. 282). We want to make it physically impossible for strategic weapons to be destroyed in a sudden attack. It is premature to judge whether we can defend only strategic forces and population and not other military assets or if this is desirable. We must scrap the dogma that our response must be swift. We might consider missiles buried thousands of feet down that would take months to be launched (p. 283).

Discarding the dogma of speed will reduce the chance of nuclear war by accident. Deterrence would remain but it would be for the conventional forces of the enemy. This would make deliberate nuclear war even less tempting than it is today (p. 284).

Will the Soviets accept such an evolution in thought? "Once freed from our dogmas, we may discover the distance in strategic views between us and the Russians is less than it appears today" (p. 284). Intellectual and institutional rigidities are making this change more difficult. The military is linked to familiar weapons and concepts.

There are many contradictions in the current posture. We want to maintain some nuclear deterrent to massive conventional attack; yet we seek not to threaten Soviet nuclear arms to stabilize deterrence. We brush aside the immorality and irrationality of a countercity response.

Controlling Assumptions

The threat of strategic nuclear war is very real. The objective of U.S. strategy should be to reduce its likelihood and its consequences if it does occur. This is not simply a matter of deterring a rational enemy from a premeditated attack. It is not even really a question of rationality vs. irrationality. It is much more of a question of the psychological propensity to take risks. Not all national leaders can be deterred by the threat of massive civilian casualties. Moreover, nuclear war can come from a variety of mechanisms that cannot be deterred

by the threat that assured destruction is immoral to begin with. We must free ourselves from the shackles and institutional biases of the past and rethink these vital questions.

Implications for War Termination

The subject of war termination is not specifically addressed although much of the analysis has implications for the subject. The author's rejection of the importance of speed in retaliation, and his advocacy of city avoidance and the utilization of highly discriminating nuclear weapons and delivery systems have large implications for the termination of a strategic nuclear conflict. Reducing the speed of a conflict can reduce the pressure on decisionmakers and give them more time for thought. Reducing the threat of national entity destruction would tend to reduce the chances of an act of desperation escalating the conflict into general nuclear war.

Recommended Strategic Force Options

The author recommends the rejection of the doctrine of Mutual Assured Destruction and its replacement with a doctrine of population avoidance. He advocates designing weapons of very high prelaunch survivability and control without emphasis on the capabilities for immediate response. Weapons of extremely high accuracy and controlled effects would be very useful to the implementation of this strategy. Missiles buried thousands of feet underground that would take weeks or months to fire are suggested.

Michael May, "Some Advantages of a Counterforce Deterrent," Orbis
(summer 1970).

Summary

It is probably possible that one can win a nuclear war. It is not possible to win if one defines winning as coming out of such a war in a better condition than one enjoyed before the war began; but no one (except perhaps the German who got rid of Hitler) won the Second World War if this definition is applied. In a nuclear exchange it is possible that both sides will be devastated but one side may end up with a monopoly on nuclear weapons. This side would have, in a sense, won the war because it could continue to inflict damage on the enemy and blackmail other nations into helping it recover from the war (pp. 271-272).

The occupation of the Soviet Union is not what is being advocated. A case is being made for the avoidance of military defeat. If a nuclear war comes, the ability to prevent further damage to the United States will be the first concern of American decisionmakers. Retaliation will be a secondary objective if it is an objective at all. If one is attacked, the main usefulness of weapons is to prevent future attacks. We would want to destroy the capability of the enemy for both nuclear and non-nuclear war. When we can destroy our enemy's forces "faster than he can build and fire them, then at least the first step toward a military victory has been taken." Attacks on enemy reloadable weapons, weapon storage facilities, auxiliary aircraft, command and control, and concentrations of conventional forces can accomplish this goal (p. 276). Destruction of general-purpose urban-industrial centers is relatively low on the target list. These would lose their military importance if we establish military dominance in a few weeks (p. 276). A number of withheld weapons after our opponent has been disarmed will obtain for us an acceptable settlement--far more acceptable than any preplanned level of destruction. There will be more time for negotiations during a counterforce war (p. 280).

Controlling Assumptions

In a nuclear war, decisionmakers on both sides will be far more interested in preventing further damage to themselves than in punishing

the enemy. They will thus conduct the war along rational counterforce lines rather than reacting emotionally to punish the enemy. A "long" nuclear war may be possible. Intrawar deterrence will survive repeated nuclear strikes on both sides, and the war may go to the point of exhaustion of weapons by the weaker side without entering a countervalue phase.

Implications for War Termination

A long counterforce war opens far more opportunities for war termination. Both sides have much to lose in a counterforce war even after deterrence fails and large-scale repeated nuclear attacks have been launched by both sides. The side which completely disarms the other and has nuclear weapons in reserve can force the side which has been disarmed to capitulate.

Recommended Strategic Force Options

The United States should scrap our doctrines of Assured Destruction, develop the military capabilities needed to fight a protracted counterforce war, and fight such a war if nuclear conflict breaks out.

Philip A. Karber, "Nuclear Weapons and 'Flexible Response'," Orbis
(summer 1970).

Summary

The "flexible response" strategy proposed by former Defense Secretary Robert McNamara was highly inflexible. Mr. Karber proposes the development of advanced discriminating tactical nuclear weapons and combining this with a strategy of graduated retaliation (using tactical nuclear systems) against the Russians in the event of an attack against NATO. For every major German city occupied or destroyed by the Russians, a predesignated Russian city would be destroyed. NATO retaliatory weapons must be made survivable for this purpose. Sister cities should be located in East Germany, Czechoslovakia, Poland, or European Russia (p. 294).

Controlling Assumptions

The author assumes that such a strategy could be made credible in a strategic environment of at least parity or even Russian superiority. He assumes that in such a strategic environment the United States would initiate a counter city attack. The reaction of the Soviet Union to such a strategy is not discussed but apparently the author believes the Soviets would back down rather than reply on the strategic level.

Implications for War Termination

Such a strategy might terminate a European war very quickly. It also might escalate into a general strategic war. The emerging balance of strategic power would not seem to make this a credible termination strategy for the United States.

Recommended Strategic Force Options

No specific strategic force options are recommended. The author advocates the development of advanced tactical nuclear weapons of very low yield and high accuracy. He advocates the development of weapons with specialized kill mechanisms including pure fusion weapons. His plan for a survivable European nuclear force for the purposes of retaliation along the

lines of a sister-city strategy has strategic implications. It would involve mobile medium-range ballistic missiles under a NATO command.

Statement of Secretary of Defense Robert S. McNamara Before the House
Armed Services Committee on The Fiscal Year 1964-1968 Defense Program
and 1964 Defense Budget

Summary

There is no question today that our strategic retaliatory forces are fully capable of destroying the Soviet Union even after absorbing a surprise attack. This could be accomplished without any help from deployed tactical aircraft, carrier aircraft, or Jupiter and Thor missiles (p. 29). Our strategy is one of a second strike so our force must be able to ride out the enemy attack (p. 30). "The major mission of the Strategic Retaliatory Forces is to deter war by their capability to destroy the enemy's war-making potential, including not only his nuclear strike forces and military installations, but also his urban society, if necessary" (p. 28).

"A very large increase in the number of fully hard Soviet ICBMs and nuclear-powered ballistic missile-launching submarines would considerably detract from our ability to destroy completely the Soviet strategic nuclear forces" (p. 29). If they did this we could not completely destroy all their ICBMs even if we doubled or tripled our ICBM force (p. 29). We would have to deploy an extensive ABM system if we wanted to limit damage considerably to the United States.

We are building a second strike capability to destroy simultaneously the Soviet urban-industrial complex and military capability or to strike back selectively at the Soviet military complex to reduce further damage to the United States. The Soviet leaders talk about strikes at our entire target complex in a global war but we do not know if they really mean it. "It would certainly be in their interest as well as ours to try to limit the terrible consequences of a nuclear exchange. By building into our forces a flexible capability, we at least eliminate the prospect that we could strike back only in one way, namely, against the entire Soviet target system including their cities. Such a prospect would give the Soviet Union no incentive to withhold attack against our cities in a first strike. We want to give them a better alternative. Whether they would accept it in the crisis of a global nuclear war, no one can say. Considering what is at stake, we believe it is worth the additional effort on our part to have this option" (p. 30).

We are planning to have the ability to destroy all of the soft and semihard targets in the Soviet Union and a good part of the hard targets. Unfortunately, on a second strike many of these targets would be empty. The value of a strategy of obtaining the ability to destroy all Soviet hard targets is reduced if the Soviet deploy Polaris-type boats as is expected (p. 30). We have no substantial ability to destroy these submarines at sea or intercept their missiles when launched (pp. 30-31). Although we are investing heavily in ASW there does not seem to be any likelihood of a breakthrough in this field during the next five years (p. 31).

We do not need a new bomber like the RS-70 because it would mean a very small increase in our capabilities purchased at a very high cost (p. 33). The RS-70 cannot attack mobile targets, and fixed targets can be better attacked by ICBMs (p. 32). The Skybolt missile would have been the least effective in our arsenal and very costly (pp. 34-35).

Satellite systems are inefficient ways to deliver nuclear weapons (p. 43). It is premature to commit ourselves to a major damage limiting program by way of ABM (pp. 48-49).

Controlling Assumptions

The outcome of a thermonuclear war can be calculated to the extent that permits making major weapons systems decisions on the basis of detailed cost-effectiveness studies. The purpose of strategic nuclear forces is to terminate a war at the lowest possible cost by destroying the ability of the enemy to continue it. This entails the destruction of his strategic nuclear forces.

Implications for War Termination

General nuclear war or a city-avoidance counterforce war can be terminated by the total destruction of the enemy's military forces, thus denying him the option of continuing the war.

Recommended Strategic Force Options

The United States should procure a strategic force that is capable of striking back either against the entire Soviet target system or against military bases only. Such a force must be able to ride out a surprise attack and destroy all soft and ~~seminard~~ and ~~most~~ hard targets in the USSR. To do this we must deploy a force of about 1,000 Minuteman ICBMs and 41 Polaris boats and maintain our manned bombers (while phasing out the B-47s). We should not deploy the RS-70, the Skybolt missile, or an ABM at this time. We should maintain our existing bomber defense forces.

Summary

The idea of flexible response is based on the belief that deterrence could fail and we have to have damage limiting options for that contingency. Damage limitation would be a major wartime objective (p. 51). "His search for a substantial number of military options and his emphasis on the less destructive forms of violence were all intended to provide controlled and useful force in an environment of great uncertainty. As a result of his efforts the President could apply military power with a delicacy unmatched in postwar American history" (p. 135).

Intrawar deterrence of urban attack is an important part of this strategy (p. 52). We cannot know whether or not this would work in an actual war but we would have to be stupid not to try. "Finally there was the premise that even a thermonuclear conflict would not totally erase the interest of the United States in the postwar world: hence, sufficient forces should be available to bring the war to a conclusion, and provide a measure of protection thereafter" (p. 52). The enemy would not necessarily be more willing to go to nuclear war if he were thwarted in his plans than he would if he would be punished by urban industrial damage (p. 52). Unilateral American restraint will not slow down the arms race.

As John T. McNaughton put it:

The first interest of the United States Government is the protection of the people. It can and must ensure that they will not be the victims of a strike intended not for them but rather for Western Strategic forces (p. 135).

But the U.S. population must also be protected against deliberate attack. In the words of McNaughton: "First, there is the assertion that 'city avoidance' is no more nor less than an affirmation that, whatever other targets may be available and whoever initiates the use of nuclear weapons, the United States will be in a position to refrain from attacking cities" (p. 145).

We must maintain a counter-city force in reserve to deter attacks on cities. Will this work? McNaughton believes this is uncertain. "Uncertainty probably dominates the calculations. The resulting damage under

any strategy would be so great that a nuclear war would be elected only in the case of the most extreme provocation" (p. 145). The early announcement of this strategy was not designed to achieve an agreement on it with the Russians but to alert a potential enemy of his options. Nothing ever is certain in warfare. The Russians may not respond in the way we would like them to, but we have no evidence either way. "The main point is that the United States must have a strategy of one kind or another with respect to targeting cities, and the 'city-avoidance' strategy appears to be a move in the right direction--a move which would reduce damage should war occur. It is an arms control restraint the success of which does not depend upon negotiations in the normal sense and one which incidentally does stand to benefit both sides" (p. 146).

As McNaughton wrote to Stewart Alsop, "I believe that a counter-force strategy is most likely to apply in circumstances in which both sides have the capability of surviving a first strike" (p. 148). Since a first strike against us right now is highly irrational, it would likely come against all classes of targets. "This is why a nuclear exchange confined to military targets seems more possible, not less, when both sides have a sure second strike capability" (p. 148).

Controlling Assumptions

Nuclear war may occur because deterrence can fail irrespective of the forces we procure. If it does fail, damage limitation will be the major wartime objective of the U.S. We have objectives in the postwar world and hence we must maintain military capability or at least neutralize the military capability of the enemy. Counterforce strategy is the best way to achieve this and it will strengthen deterrence.

Recommended Strategic Force Options

The United States should procure a counterforce capability in addition to an Assured Destruction force that can both survive an enemy attack and penetrate enemy defenses and destroy their targets. We should strengthen our command and control arrangements and centralize control in the hands of the President. Allied nuclear forces should be discouraged because of their lack of a war-fighting capability.

Statement of Secretary of Defense Robert S. McNamara Before A Joint Session
Of the Senate Armed Services Committee and the Senate Subcommittee On
Department of Defense Appropriation on the Fiscal Year 1965 Defense
Program and 1965 Defense Budget (Washington: Government Printing
Office, 1964)

Summary

Secretary McNamara rejects the idea of "overkill." He stated:

The proponents of the "overkill" theory would, in effect, restrict our strategic forces to those required for retaliation against cities only--with calculations assuming near optimum conditions. This is not a new concept. I understand that it has been debated within the Defense Department for many years before I came to the Pentagon, but I know of no responsible official within the Department who would support it today. To serve as a maximum deterrent to nuclear war, our Strategic Retaliatory Forces must be visibly capable of fully destroying the Soviet society under all conditions of retaliation. In addition, in the event that such a war is forced upon us, they should have the power to limit the destruction of our own cities and population to the maximum extent practicable (pp. 29-30).

Damage limitation is technically feasible: "Over the past two and one-half years we have made many comprehensive studies of alternative U.S. strategic force structures employed in a nuclear exchange with a wide range of possible Soviet forces and under a wide variety of assumptions pertaining to the outbreak of war and U.S. and Soviet operational factors. In every pertinent case we found that forces in excess of those needed simply to destroy Soviet cities would significantly reduce damage to the U.S. and Western Europe" (p. 30).

It would be unlikely that the Soviets would launch all their forces in one spasm attack. There will be second-strike counterforce targets left. Irrespective of whether the Soviets strike at our cities or military capability or both, their launches might be strung out over a long enough period of time so that our missiles could destroy many of them. Our forces would have to be considerably larger than those required for a full first-strike capability, which is not technically feasible. Our fatalities would still be in the tens of millions. "While there are still some differences of judgement on just how large such a force should be, there is general agreement that it should be large enough to ensure the destruction, singly or in combination,

of the Soviet Union, Communist China, and the Communist satellites as national societies, under the worst possible circumstances of war outbreak that can reasonably be postulated, and, in addition, to destroy their war-making capability so as to limit, to the extent practicable, damage to this country and to our allies" (pp. 31-32).

Controlling Assumptions

One can make calculations beforehand concerning the outcome of a thermo-nuclear war adequate to base vital policy decisions on these calculations. Such studies indicate that we can considerably reduce damage to ourselves in the event of an enemy attack. Since deterrence can fail we must have the ability to destroy any combination of aggressors and the ability to limit damage to ourselves.

Implications for War Termination

The issue of war termination is not considered, but the objective of the counterforce strategy Secretary McNamara outlined was the ability to destroy as much as reasonably possible of the enemy's strategic forces as quickly as possible. The force that McNamara would procure under such a strategy would have much capability to implement a strategy of graduated response and slow-motion war.

Recommended Strategic Force Options

McNamara recommended the deployment of highly survivable and penetrable strategic forces (Minuteman I and II and Polaris), the development of sophisticated strategic weapons with good hard target-kill capability, the continuation of our bomber defense program, and research and development, but not deployment of an ABM and the active development of penetration aids. Bomber forces were to be maintained but the development of a new strategic bomber received only minimal funding.

Summary (of Views on Limited Strategic War)

To make a counterforce campaign possible, one must have invulnerable strategic forces and a counterforce capability. The greater the vulnerability of your strategic forces, the narrower the range of your option. No strategist can ever be sure that the duelists will follow his scenario and that the war won't escalate very rapidly (pp. 49-50).

The side with superior capability is more likely to initiate a limited strategic war. Such a contest demands strong nerves and that both sides have invulnerable strategic systems. The more vulnerable the forces of both sides are, the greater the risk of escalation. We must consider this problem because "there are degrees even to horror." U.S. analysts tend to ignore the possibility of intended thermonuclear war. This is possible because of the existence of strategic forces vulnerable to first strikes, the possibility of technological breakthrough, misunderstandings, and escalation. The McNamara theory of graduated response presupposes escalation. Bluff is a major element in international relations and limited strategic war. Irrational decisions are always possible and these may result in a war (pp. 51-52).

Controlling Assumptions

Aron has been greatly influenced by Herman Kahn's idea that a wide variety of thermonuclear wars are possible and that are great differences between various war-outcomes. We must prepare to fight a counterforce war because of this. In order to limit a TN war the strategic forces of both sides must not be completely vulnerable to preemption.

Implications for War Termination

Aron believes that a condition of mutual invulnerability of strategic forces must exist before it is possible to fight a limited strategic war. If forces are vulnerable the chances of eruption into spasm war are much greater because there will be pressures on both sides to preempt. Aron does not speculate on the way in which a thermonuclear war could be terminated.

Recommended Strategic Force Options

Aron endorses the McNamara doctrine of flexible response and his city-avoidance counterforce strategy. He does not see much strategic value in the French nuclear force but he distrusts the hostility of the McNamara administration to it. He recommends that the United States maintain a limited counterforce strategic posture.

Leonard Beaton, The Western Alliance and the McNamara Doctrine (London: Institute for Strategic Studies, Adelphi Paper No. 11, August 1964).

Summary

For the first time since the development of nuclear weapons, the McNamara doctrine announced in an official form a doctrine of restrained use of nuclear weapons. The McNamara doctrine was based on orthodox assumptions about the Cold War and the uses of military power. It was an effort to eliminate irrationality from the planning process. Only national leaders who have thought out the problem can be expected to act rationally in time of crisis (p. 2).

The conventional strategic war doctrines which go back to Douhet are extremely unorthodox. They involve massive destruction of lives and property. Especially unorthodox was the postwar notion that a major war could only take the form of an uncontrolled retaliatory blow (pp. 1-2).

McNamara emphasizes political control, flexible response, and damage limitation. Military forces should not be allowed to do things that are not in the national interest. Flexible response is an attempt to provide a series of options and choices for the President which can be decided upon during the crisis.

Ironically, McNamara's controlled response doctrine was scrapped at the Cuban missile crisis and replaced with a threat of massive retaliation. We want maximum deterrence in a time of crisis--and hence the threat during the Cuban crisis--but the logic of survival can be expected to reassert itself in time of war. No Administration official has ever stated that nuclear war can be made tolerable. What they have suggested is that we must not despair and must make every effort to limit damage (pp. 2-3).

Since the United States is not investing heavily in missiles, bombers, and civil defense and has no plans for major expansions of ASW capability, most damage-limiting will come from counterforce attacks. From the standpoint of the United States, this doctrine is rational. European

nations, however, are more sympathetic to an all-or-nothing response. Thus McNamara doctrine has not yet caused trouble in the Alliance because the leaders of NATO nations do not really believe war is possible. But in an intense crisis there may be trouble (pp. 2, 4).

The problem with the McNamara doctrine is that the Russians do not have enough intercontinental forces to engage in counterforce attacks. If we rule out cities and if military bases are invulnerable, we can hit only economic targets. This strategy would have little value in a short war but might be important in a long war (p. 5).

The main difficulty with counterforce doctrine is that it uses a large number of weapons and hence the nature of the attack could be misunderstood. Since the deterrence value depends mainly on the collateral damage done, would not a strategy of attacking a few cities be just as effective? It would certainly be less ambiguous. What would happen if the Soviet military machine were thrown into complete chaos by the U.S. attack? Rapid decisions by the enemy government could well be irrational especially if they had intense fears of their forces being destroyed. Since such a strategy would depend on secrecy it would probably make arms control impossible (p. 5).

If cities were eliminated as targets and missiles were made mobile and untargetable, what would be left? Economic targets would have little effect on a long war (p. 5). The relationship of counterforce doctrine to the general idea of deterrence is not clear (p. 6).

It is possible that under some circumstances--if most military forces had been moved to the sea and if there was a danger that Western Europe was going to be unified--the Soviets would initiate a war if we had a no-cities-targeting doctrine (p. 6).

The regional character of the NATO alliance makes an optimum strategy very difficult to achieve. The assumptions on which NATO was based are becoming very difficult to sustain. What is needed is an alliance political cabinet. Joint consultation of targeting is not enough (pp. 7, 10-11).

Controlling Assumptions

In an era of mutual deterrent forces, the United States and the European NATO states have basically different national interests. The United States wants flexibility and options in a crisis while European states want the threat of total response as a deterrent. Hence we have difficulty in creating an acceptable strategy for the alliance.

Counterforce strategy can be evaluated on various military-technical criteria but it must also be evaluated on political criteria. Hence it is not an adequate long-term solution to the problems of the NATO alliance.

Implications for War Termination

The author does not address the problem of war termination. He doubts that a controlled counterforce war is technically feasible because of the very large numbers of weapons required and the small strategic intercontinental arsenal of the Russians. He is concerned about the lessening of the deterrent effect of a counterforce strategy in certain extreme situations.

Recommended Strategic Force Options

The author does not specifically advocate any strategic force posture or doctrine. He is not sure that a counterforce controlled war posture is workable because of the limited Soviet strategic force. He recommends the creation of an alliance cabinet to map out alliance strategy. Consultation about targeting is inadequate when the final decisions will be made during a crisis by the American president.

Alain C. Enthoven, "U.S. Defense Policy for the 1960s," in Wesley Posvar et al., eds., American Defense Policy (Baltimore: Johns Hopkins Press, 1965).

Summary (of views on Limited Strategic War)

The aim of U.S. defense policy should be to acquire "a flexible, balanced defense posture giving us capabilities for the selective use of force for all kinds of conflicts from counterinsurgency and anti-guerrilla warfare through large-scale conventional (nonnuclear) warfare, through major thermonuclear war." Our objective should make the punishment fit the crime. Strategic war deterrence is obviously our major objective, but it may nevertheless occur and we must have options. "It would be a policy of weakness to commit ourselves irrevocably to a spasm of nuclear retaliation against Soviet cities." Short of complete destruction of Western society we have a motive to exercise restraint. We cannot base our planning on the assumption that a thermonuclear war can never happen. We are making preparations to maintain a favorable military position in the event of war. Our objective is to bring the war to an end quickly and with a minimum of destruction. Valuable military targets would remain in a second-strike situation. Our objective would be to maintain intra-war deterrence. If nuclear war results from a major attack on the Western alliance our objective should be the destruction of the enemy's military capability. Can nuclear war be controlled? "The answer depends on our will to make it so." There are no technical reasons why not.

Controlling Assumptions

We live in a dangerous world, and TN war is possible. If it occurs, our objective should be to bring it to an end as soon as possible and it should be ended with minimum destruction. This is probably possible if we procure the forces necessary for a counter-force strategy. We should not commit ourselves in advance to any one type of warfare.

Implications for War Termination

The issue of war termination is not directly discussed. The assumption is that a counterforce posture will give us the option to terminate the war without massive destruction.

Recommended Strategic Force Options

- I. Procure forces necessary for a counterforce posture and civil defense.
- II. Do not commit the United States to an inflexible spasm war capability.
- III. Fight a nuclear war along with a counterforce strategy.

The United States should procure strategic forces that are needed for a strategy of controlled counterforce and deploy the system of fall-out shelters that would be required. We should not commit ourselves to an inflexible spasm war strategy. In the event of nuclear war we should spare cities if the enemy does so.

Robert S. McNamara, Collection of statements on limited strategic war appearing in Col. Robert N. Ginsburgh, U.S. Military Strategy (New York: W. W. Norton, 1965).

Summary

Ann Arbor Speech, 1962

In the current balance of power a surprise attack would not be a rational act for any enemy. But the fact that "no nation could rationally take steps leading to a nuclear war does not guarantee that a nuclear war cannot take place" (p. 69). Nations do not always act rationally, and standards of rationality differ. They often misjudge the way others will act. "The U.S. has come to the conclusion that to the extent feasible, basic military strategy in a possible nuclear war should be approached in much the same way that more conventional military operations have been regarded in the past. That is to say, principal military objectives, in the event of a nuclear war stemming from a major attack on the Alliance, should be the destruction of the enemy's military forces, not his civilian population" (pp. 69-70).

"The very strength and nature of the Alliance forces make it possible for us to retain, even in the face of a massive surprise attack, sufficient reserve striking power to destroy an enemy society if driven to it. In other words, we are giving a possible opponent the strongest imaginable incentive to refrain from striking our own cities..." (p. 70).

This strategy is based on unity of planning and central direction. There must not be competing strategies or target systems. The Polaris force will serve as a strategic reserve. We believe our strength and the strategy of controlled response will give us some hope of limiting damage (p. 70).

Testimony to Congress in 1963

"What we are proposing is a capability to strike back after absorbing the first blow... . Such a force should have sufficient flexibility to permit a choice of strategies, particularly an ability to: (1) strike back

back decisively at the entire Soviet target system simultaneously, or (2) strike back first at the Soviet bomber bases, missile sites, and other military installations associated with their long-range nuclear forces to reduce the power of any follow-on attack--and if necessary, strike back at the Soviet Urban and industrial complex in a controlled and deliberate way" (p. 71).

We have no way of knowing what kind of attack they will launch. If they strike at our cities, we will strike back at theirs. The prospect of an urban-avoidance U.S. second strike would give the Soviets an incentive not to attack our cities. We are planning on the ability to destroy virtually all soft and semihard targets and a large number of hardened missile sites plus a strategic reserve force. We have not found it feasible at this time to destroy a very large portion of their hardened ICBM force. Many of their missile silos would be empty when we would attack them. The Soviets are likely to produce more missile submarines and hence reduce the usefulness of silo destruction. He commented to reporters, "This may result in mutual deterrence, but it is still a grim prospect" (pp. 71-72).

McNamara rejected reports that we have no plan to win. In any reasonable sense of the word we are winning. The program to win must be broader than the application of military force. We are developing conventional force to increase the options that are open to us. We cannot secure the defeat of Communism in a general nuclear war. We would win in the sense of destroying more of their population than we lost of ours, but the total amount of destruction in the West would probably exceed theirs (pp. 73-75).

Controlling Assumptions

A strategic military capability is required for the security of the United States. The main purpose of strategic military forces is to deter war and to limit damage to the United States and our allies. (There is little difference in priority between the two and between deterrence of attack and damage limitation for the United States and our allies.)

Strategic force postures should give us a maximum number of options during a time of crisis. Counterforce strategy best fits this role. The outcome of a nuclear war can be calculated well enough to use these calculations for strategic force planning.

Implications for War Termination

In general war, central control, unified force, and target planning and a city-avoidance strategy are required in order to limit damage and to terminate the conflict before massive damage to both sides occurs.

Recommended Strategic Force Options

Secretary McNamara recommends that the United States deploy a survivable strategic force composed of land-based hardened Minuteman missiles, Polaris missile submarines, and strategic bombers. Our strategic forces should be capable of damage limiting counterforce strikes at enemy strategic forces. The Polaris components should be reserved as a strategic reserve. We should hit enemy cities only if they strike at ours first.

Arthur Lee Burns, Ethics and Deterrence--A Nuclear Balance Without Hostage Cities? (London: Institute for Strategic Studies, Adelphi Paper No. 69, July 1970).

Summary

Under the traditional morality and ethics of warfare which demand the sparing of noncombatants and the use of force only where force has some chance of achieving the objectives it is being used for, the doctrine of Assured Destruction is immoral. Assured Destruction, as well as all other strategies that are based on hostage taking, is immoral. It is a utilitarian concept which ignores the moral issues and assumes one can calculate exact possibilities for the possibility of warfare and the failure of deterrence. If we were to apply this theory to the deterrence of local drunk-driving traffic violations, we might threaten to kill a close relative of anyone caught driving in an intoxicated condition (pp. 11-13).

The alternatives of conventional defense and nuclear or general pacifism are unworkable. Pacifism withdraws the individual's allegiance to a state, and without it the state cannot survive. Nuclear disarmament would lead to crash nuclear armament in the event of war and probably its use. The world is too dependent on nuclear deterrence to make disarmament practical. War can always occur. Instruments of war are not immoral. It is the use to which they are put (pp. 20-23).

No strategy of nuclear deterrence is completely moral because to some extent noncombatants would be killed as well. But counter military targeting is the most moral strategy we can adopt. Clean and prompt-radiation warheads can reduce the fallout problem. Even prior preventive attacks are moral if they reduce the overall amount of damage that a war would inflict. The no-first-use doctrine put forth by some arms controllers would prevent this counterforce preventive use. Its purpose is to stabilize deterrence by reducing fear of a surprise attack. It uses the threat of city attacks to accomplish this. In doing so it ignores the traditional moral view that the means to be employed must be able to achieve the desired ends (pp. 14-16).

All such a strategy does is to assure that war will be devastating if it occurs. Invulnerable strategic forces are desirable but they do not have to be targeted on cities. Twentieth century warfare has seemed so terrible that it has dulled our sensitivities to the horror of this kind of strategy. A city-targeting strategy cannot be reconciled with the idea of a just employment of armed forces. Simply basing missiles on submarines and making no attempt to destroy the invulnerability of the enemy's force does not change things. If the enemy began to attack your submarines you would eventually have to launch at his cities if this was the type of deterrent you bought (pp. 13-14).

Military targeting is the least immoral strategy. For this strategy we need highly accurate-clean weapons. It is a strategy more of nuclear defense than deterrence. It is not always unjustified to launch a nuclear first strike if war is certain and it will reduce the consequences of it (p. 15).

Can a military targeting system be an adequate deterrent for a nation like Britain? It probably can. British forces might target elements of the Soviet military system that would weaken it in relation to the United States and China. This could include conventional forces or logistics capability. Targets might include airbases, strategic airfields, surveillance capability, command and control facilities, and military forces in the Far East. Totalitarian states would view the destruction of their conventional forces as a very serious danger. The Russians might be more willing to lose some of their cities than lose some elements of their conventional forces. The Soviets have severe satellite and domestic minority control problems (pp. 16-17).

Military attacks can deter less-than-all-out attacks. We can escape our moral dilemma if totalitarian states are sensitive to attacks of this type. The Assured Destruction utilitarian ethic of no-use is faulty. It conflicts with the deterrence of less-than-all-out attacks. Moreover, counter-military targeting leaves the Soviets with something to lose. A counter-military target strategy would be in line with traditional morality and also be an adequate deterrent for Britain (p. 17).

There is nothing morally wrong if a nation decides to fight to the last man against a totalitarian state although such behavior is not required on the basis of traditional morality. Today those who believe damage limiting in nuclear war to be desirable get an extremely bad reception because of the influence of pacifism in the intellectual middle class. The notion that counter-military strategics and civil defense would prompt the launching of a nuclear war is ridiculous. Technology and politics may make a counter-military strategy impossible, but until this happens a counter-military strategy is the most moral strategy we can pursue (pp. 19-21).

Controlling Assumptions

Western morality must have a significant role in the formation of nuclear strategy. The objective of deterring a war is not enough to justify the adoption of an immoral strategy--especially a strategy that would lead to utter disaster if it was ever implemented. The traditional Western morality which distinguishes between combatants and noncombatants must be applied to nuclear strategy. Hence limiting damage to the civilian populations of both sides is the major objective of strategy. Under traditional Western morality we must develop a strategy that has a reasonable chance of obtaining its goals without massive civilian damage. Assured Destruction strategies obviously cannot do this. Counterforce strategy comes the closest.

Implications for War Termination

The issue of war termination is not specifically addressed but, under the criteria that are established for the conduct of a war, war termination is obviously a very important objective, and indeed the prospects for rapid war termination would be one of the major criteria any strategy would be judged upon.

Recommended Strategic Force Options

The United States and Britain should adopt a counter-military strategy and reject the doctrines of Assured Destruction, pacifism, and nuclear pacifism. We must develop highly accurate and clean weapons systems. We

should not try to depend on strategic arms limitation agreements to obtain the objectives of a counter-military strategy because they probably cannot. The issues involved should be publicly debated.

Neville Brown, Nuclear War: The Impending Strategic Deadlock (New York: Frederick A. Praeger, 1964).

Summary

The spectrum of strategic attacks should be divided into strikes against population centers and attacks on strategic weapons. A limited counterforce strike is one that is less than total and is designed not so much to disarm the enemy as to destroy the enemy's will to continue the war. It can take several forms: a constrained disarming attack; a series of strikes interspersed with threats; single shots or consecutive shots or salvos against production targets or towns; or a demonstration attack (p. 119).

The control of limited strategic operations will be coarse and clumsy and will depend on subjective evaluation of the worth of the targets destroyed. It may take the form of a limited ding-dong exchange. Escalation in the intensity of the conflict may occur. Gradually both sides may emerge with a recognition of the futility of these strikes and the extent of the damage that has been done. This might deescalate the severity of the conflict (pp. 119-120).

It would be difficult to find an aim for this type of war. Neither the destruction of the enemy's society nor the destruction of his military forces can be the goal. It is not clear that the West has the superior will to resist in this type of conflict. It would create so much hatred on both sides that it could lead to another war in a decade or two (pp. 120-121).

Controlling Assumptions

It is not possible to win a nuclear exchange. Technology has created a situation of strategic stalemate and this will continue into the future. Limited nuclear war will be far more destructive than any previous conventional war. It would be fought with high-yield weapons and hence would be very difficult to terminate. It may seem bizarre but it is possible.

Implications for War Termination

Limited strategic war may be very difficult to terminate because a clear victory does not emerge from this kind of war. Breaking the enemy's

will may be the only way to terminate it. A lesser reply to an attack may be a means of reducing the severity of the next attack and finally terminating the war. It is not at all sure that the West has an advantage in this kind of conflict.

Recommendations for Strategic Force Options

The author does not believe that strategic counterforce is possible because of the assumed invulnerability of Polaris submarines, the ineffectiveness of ballistic missile defense, and the likely minimum CEP of 1/2 mile that will ever be achieved with ballistic missiles. Strategic bombers might be better suited to limited strategic war. The West must retain the limited strategic war option because of possible problems in Berlin.

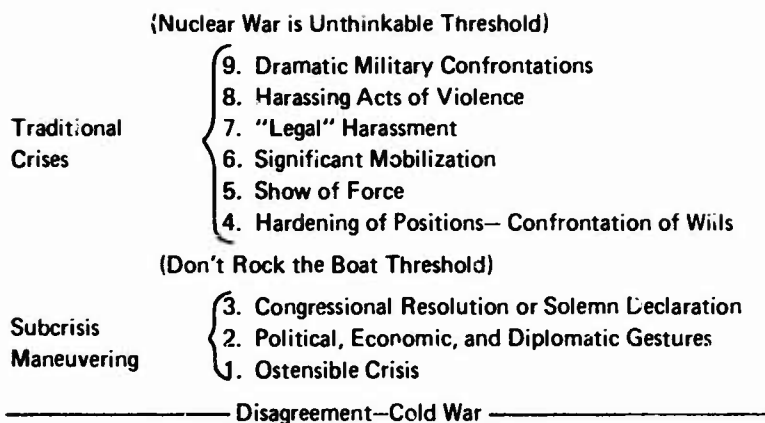
Herman Kahn, "Escalation and Its Strategic Context," in Abshire and Allen, National Security: Political, Military and Economic Strategies in the Decade Ahead (New York: Frederick A. Praeger, 1963)

Summary

The escalation ladder, such as the one outlined below, is a convenient metaphor. The ladder is not sacred but is useful because it displays alternatives plausibly.

Table 1— AN ESCALATION LADDER
A Generalized (or Abstract) Scenario

Aftermaths		
Civilian Central Wars	{	37. Some Other Kind of General War (p. 480)
		36. Spasm War
		35. Countervalue Salvo
		34. Slow-Motion Countervalue War
(City Destruction Threshold)		
Military Central Wars	{	33. Counterforce-with-Avoidance Attack
		32. Constrained Disarming Attack
		31. Slow-Motion Counterforce War
		30. Force Reduction Salvo
		29. Formal Declaration of War
(Central War Threshold)		
Nuclear "Gunboat Diplomacy"	{	28. Reciprocal Reprisals
		27. Complete Evacuation (~95%)
		26. Exemplary Attacks on Population
		25. Exemplary Attacks Against Property
		24. Exemplary Attack on Military
		23. Demonstration Attack on Zone of Interior
(Central Sanctuary Threshold)		
Bizarre Crises	{	22. Evacuation (~70%)
		21. Unusual, Provocative, and Significant Counter-measures
		20. Local Nuclear War—Military
		19. Declaration of Limited Nuclear War
		18. Local Nuclear War—Exemplary
(No-Nuclear-Use Threshold)		
Intense Crises	{	17. "Justifiable" Counterforce Attack
		16. Spectacular Show (Demonstration) of Force
		15. Limited Evacuation (~20%)
		14. Nuclear "Ultimatums"
		13. Barely Nuclear War
		12. Declaration of Limited Conventional War
		11. Conventional Warlike Acts
{		10. Super-ready Status



There are basically two types of escalation. One type attempts to make use of the feature of various stages, and the other type seeks to exploit the fear of eruption. The first type seeks to limit eruption risks. The second type attempts to play at brinkmanship (p. 476).

The most important threshold is the one between nuclear and conventional war but there are many other thresholds that can be exploited. The United States would use nuclear weapons only under dire circumstances. Most analysts agree with this. Nuclear use might cause escalation or a tit-for-tat reply. It may not result in all-out war but it could set a precedent that could lead to all-out war the third time it is used. It would certainly stimulate the arms race. There is a possibility that it may be more dangerous than losing a local conflict. The use of nuclear weapons could be made even more frightening if they were launched by strategic systems rather than theater systems (p. 494).

Exemplary attacks on populations probably would touch off an all-out war, but it might be possible to use them if the strategic balance were very stable and Governments were in control of themselves. There is an important firebreak between attacking cities and not attacking cities (pp. 501, 503).

When one reaches to the realm of major disarming attacks, it is possible that tit-tat-tit sequences are just as stable as tit-for-tat sequences. If a great disparity in possible war-outcomes exists, the weaker side would have no rational reason for continuing this type of exchange. Even if this type of war escalated after 10-12 hours of constrained attacks, its consequences would be much less severe (p. 508).

Other kinds of thermonuclear wars can also occur. The spectrum of possible wars is outlined on the following chart. Most of the discussion

Table 2—Various Thermonuclear Attacks

1. Countervalue Devastation	}	Classical	(p. 512)
2. Mixed Counterforce-Countervalue			
3. Augmented Counterforce			
4. Unmodified Counterforce	}	Current Doctrine	
5. Counterforce with Avoidance			
6. Constrained Disarming	}	Avant Garde	
7. Countervalue Salvo			
8. Slow-Motion Countervalue			
9. Slow-Motion Counterforce			
10. Force Reduction Salvo			
11. Exemplary or Reprisal			
12. Show of Force or Demonstration			
13. Covert or Anonymous	}	Also to be Considered	
14. Special Instrumental			
15. Environmental Counterforce			
16. Environmental Countervalue			
17. Anti-Recuperation			
18. Blackmail Enhancing			

of thermonuclear war has involved the first five alternatives. There has been very little discussion of the last five.

We must ask ourselves how the enemy will react to our actions, how neutrals and allies will react, and how our public will react. We must think about what will be the long-run consequences and their effects on our ability to deal with future contingencies. The effect on the arms race must be considered (p. 518).

We must also study deescalation. The likely reaction will be fear and relief, anger and tension. More radical solutions will probably be possible. New policies, reorganizations, and mobilization may occur. The result could be intensified arms race or détente. Unless escalation had been very successful these changes could be expected to occur. Old alliances may break up and new ones could be formed. It is desirable to be in a position to exploit any of the alternatives (p. 519).

There are analogies between the escalation ladder and a labor strike. In a strike each side tries to hurt and frighten each other. But there are also differences. It is assumed that neither side wants to destroy the other. The strike analogy is most useful on the lower and middle part of the ladder (pp. 522-523).

The game of chicken is an interesting analogy to the upper and middle parts of the ladder. Some argue that you should act irrational to win at chicken games. This policy would be dangerous especially if both sides did the same. We should have a reasonable degree of rationality, sobriety, and restraint. The game of chicken, however, is a far oversimplified analogy. There are no firebreaks, none of the uncertainty that clouds the international world, and few alternatives for the players to pursue (p. 523).

Stepping on the escalation ladder implies a desire to show resolve and yet avoid general war. If one wanted general war one could simply start one. Both sides in an escalation situation realize they will play again and they do not want to set precedents that could work against them in the future. They may be willing to lose on one issue to gain on another. It is usually easier to agree on general principles than on specifics. The balance of terror is likely to work well enough to induce some kind of restraint on both sides. Because they both recognize that deterrence is unstable they will refrain from the higher rungs. Yet the side that wants a settlement without the risk of harm is likely to come out on the short end of the settlement (p. 525).

The United States needs alternatives other than all-out spasm attacks and retreat. We must have sufficient capabilities on the lower rungs to prevent attacks there or threaten immediate escalation to the upper rungs. Maybe we should agree not to play these types of games because there is always danger of miscalculating (p. 526).

There are natural discontinuities on the ladder that may be useful to both parties. Yet these can be blurred if an effort to do so is made. The ladder is subject to criticism to the effect that it assumes highly rational decisionmakers. It merely assumes a minimum of rationality. It has been claimed that it ignores other alternatives. These do exist. In some cases appeasement or compromise may be useful but in many cases it is not. Sometimes it can provoke war. An undesirable peace may be better than a war but the choice may not be that simple (p. 533).

Controlling Assumptions

One can rationally distinguish a series of alternative uses of military and political power available to nation states. These alternatives can be arranged in a ladder in which steps are ranked by their closeness to all-out spasm war, the degree of violence being done, the degree of provocation present, the degree to which precedent is broken, the degree of committal, and the degree of recklessness. There are a series of natural discontinuities and firebreaks on the list. The author assumes that attacks on population, zone of the interior, and strategic weapons are of a higher order of magnitude than attacks on theater forces or targets of any type. He assumes a very strong firebreak between attacks with conventional and nuclear weapons but that this is not the only firebreak.

Implications for War Termination

The author contends that it is probably better to limit conflict to the lower ends of the spectrum if possible because conflicts at this level are easier to settle. We must have a rational and sober attitude in any crisis situation. A bad peace may still be better than a war. In some cases appeasement is a desirable solution and in other cases it is not. We must keep our options open.

Recommended Strategic Force Options

Mr. Kahn makes no specific strategic force recommendations. He believes we should study thermonuclear warfare and war outbreak scenarios and that we should be prepared with a wide variety of options to exploit any postwar situation including a mobilization base, but he makes no specific recommendation in this paper.

Herman Kahn, On Thermonuclear War (Princeton: Princeton University Press, 1960).

Summary

The idea of mutual annihilation as the automatic outcome of thermonuclear warfare is erroneous. The survivors will not envy the dead. There are enough resources outside the major American urban areas to rebuild a reasonable standard of living within a relatively short time. The environment will certainly be affected adversely but the genetic effects will be relatively minor. Reconstruction would be much easier if efforts were made before the war (pp. 40-95).

There are three types of deterrence: deterrence of direct attack; deterrence of major provocations; and deterrence of minor provocations. A minimum, or finite, deterrence capability can only be effective in deterring direct attack. It is not an adequate strategy for the United States because of the vulnerability of Europe to various types of Russian attack. What the United States needs is a credible first-strike capability, an air defense and eventually a missile defense capability, significant expenditures for civil defense, and a mobilization base. A long war may be possible even in the nuclear age. We must take thermonuclear war seriously (pp. 119-189).

Limited strategic operations are possible. They include controlled retaliation which is designed to break the enemy's will. This involves a series of tit-for-tat responses, the objective of which is not the destruction of the enemy's military capability but his resolve. The controlled war, on the other hand, seeks to destroy the ability of the enemy to continue his attacks. This concept tries to extend deterrence into the intrawar period and end the war by negotiations. The stakes in these negotiations will be the surviving people and industry. The cards will be surviving offensive and defense forces, passive defenses, command and control and deception, morale and resolve. Even if intrawar deterrence breaks down, a controlled war will be much less deadly because most of the forces will have been exhausted by this time. The first objective of an attacker is to limit damage to himself. The second is to win the war (pp. 181-189).

If the defender is so damaged by a first strike that he has no hope of winning the war and his cities are spared, he may come to terms rather than retaliate because by not retaliating he also limits damage to himself. If deterrence fails the sensible thing to do is to push for a military victory. If this is not possible we must try to stalemate the war and terminate it by negotiation. Going to war is easier for the attacker if he believes we will use our forces rationally. Therefore we must appear to have an objective of punishing the attacker (pp. 181-189).

If the enemy destroys more than 80 percent of our force in a first strike we should hit back countervalue. If he destroys 40-80 percent we should retaliate counterforce and retain some residual countervalue capability. If only 10 to 40 percent of our force is destroyed, we should be able to terminate the war rather quickly because it was the result of an accident or failure of his systems. Even if we can win a military victory we should be careful with our attacks, avoiding urban destruction (pp. 183-187).

If less than ten percent of our force is destroyed, we should either do nothing or make at most a superficial attack at the most threatening part of his capability. We probably should confine our response to the diplomatic level (p. 187).

We must worry about the credibility of our responses. We cannot threaten a total response to a moderate provocation. One can threaten an irrational response to a moderate provocation and it might work, but if both sides are using this strategy the result could be disaster. It is the old game of chicken on an international scale. Communication is important in this and the Soviets have the advantage here at least in peacetime. A symmetry in threats can be of great importance. Evacuation, for example, may be very important. The more one can control his force, the weaker his bargaining power may be. The side that gives the appearance of an irrevocable commitment has the advantage. But such committal strategies are dangerous (pp. 285-294).

If we have no capability on the second day of the war, no matter how well we did on the first, we are going to lose the war. We need flexible war plans and the ability to change our plans after the war has begun. Command and control and civil defense are very important.

Controlling Assumptions

We must study thermonuclear war irrespective of our emotional reaction to it. We live in a dangerous world. It has always been and will always be dangerous. But we have to make the best of it. There is a difference between one million casualties and 100 million. We must seek ways to limit damage in the event of war. Merely crying about how terrible a thermonuclear war will be will get us nothing. We must be realistic about the problem. We must have credible options.

Implications for War Termination

We must not let our strategic forces become so vulnerable that we have no option except countervalue attack because this vastly reduces the chances for successful war termination. If more than about 20 percent of our forces survive we should retaliate in a counterforce fashion. If most of our forces survive we should be very cautious about avoiding cities. In this case the war should be relatively easy to terminate because the enemy has miscalculated or his systems have failed. If only a few percent of our forces are destroyed, our reaction should be surgical strikes or, better yet, completely political.

Recommended Strategic Force Options

The United States should reject the concept of minimum deterrence and adopt a counterforce strategy designed to give the United States a credible first strike capability. We should take the concepts of intrawar deterrence, warfighting and war termination seriously. Strategic defensive forces have much greater utility than is usually assumed. We should never give the enemy a free ride to his targets because this will considerably increase the amount of damage he can do.

Damage limitation and post-attack recovery are possible. Hence we should make every effort to decrease our vulnerability by civil defense, active defense and counterforce capability. Only this way can we achieve a credible capability to deter attack on Western Europe.

Summary (of Views on Nuclear Warfare)

One possible result of a limited nuclear exchange brought to a quick end would be the idea that this outcome was the inevitable outcome. There is a good possibility that a limited nuclear exchange would result in a much intensified qualitative arms race. Probably the most likely area for a nuclear war would be between Russia and China. Here we have the feasibility of an all-out victory on the part of the Russians, but it is likely the war would remain tactical nuclear rather than strategic (pp. 325-326).

It is possible that one can win a limited nuclear war. If equal numbers of nuclear weapons are launched by both sides and only a few impact against one side and many impact against the other, this could be a strategic victory. A combination of good counterforce capability and effective defenses could give the Russians this kind of strategic victory against China (p. 326).

Both the United States and the Soviet Union could recover from attacks of from 200 to 500 five-megaton weapons against their urban areas. Casualties could be quite high--as high as 200 million on each side--but the survivors could rebuild a reasonable standard of living in 5 to 25 years. The survivors might draw on the rest of the world for recovery. The victor might spare the cities of the defeated nation and use them to aid in his recovery. The morale of the survivors might depend critically on the causes of the war. If the winner could not maintain his strategic forces in the postwar period, he would be very vulnerable to blackmail by second-rank nuclear powers (pp. 329-331).

In the aftermath of a nuclear exchange, psychological and political barriers to further use may be destroyed. Indeed "raw nuclear power might be important in the postwar world." A brutal nuclear empire might be the result. The world might be divided into a series of spheres of influence. It is even possible that the pre-war system may survive (p. 331).

It is very difficult to estimate the effect of a nuclear demonstration use in a large conventional war. Even if one side retaliated in a highly

escalatory manner the other side might still try to limit the war. It is possible that the fighting might revert to a conventional level after a tit-for-tat nuclear exchange. A second nuclear phase might also occur (p. 327).

Controlling Assumptions

The outcome of a nuclear war is unpredictable because we simply do not know what the reaction of decisionmakers will be to nuclear attack. Nuclear war is not likely in the next decade but it may occur before this century is out. Fear of nuclear weapons is one of the major factors in international relations. Recovery from nuclear attack is probably possible if we make the effort.

Implications for War Termination

The reaction of political leaders to a nuclear attack is unpredictable. Even a high escalatory attack might not escalate a conflict. It is possible that after a tit-for-tat nuclear exchange a war might revert to a conventional level, but another nuclear phase may also occur. If there is a disparity in the damage done compared to the number of attacks launched, the side which comes off best as the result of superior counterforce capabilities and defensive systems may win a strategic victory.

Recommended Strategic Force Options

No specific strategic force options are recommended. The authors recommend that we take the problems of nuclear war seriously and procure a flexible capability that would give us as many options as possible. We should also think seriously about the problems of postwar recovery.

Summary

The study of crisis and nuclear war communications is unpopular because of current feelings on the likelihood of nuclear war. Nuclear war or even a severe nuclear crisis is a remote possibility, but because of its importance it cannot be ignored (p. 81).

The framework of communications must be established before a crisis. Misunderstanding the enemy can be very important. McNamara never realized that the Russians did not subscribe to his Assured Destruction doctrine, and this could have been dangerous in a nuclear crisis. Strategies used in war are likely to be established in peacetime. Misunderstandings can be very serious problems. Communications themselves have a potential for trouble but they should be tried (pp. 81-83).

The main objectives of wartime communications are:

- War termination--This is the most important use. Communicating information about the status of one's forces might be very important in persuading an enemy to terminate the conflict.
- Establish war limitations--Any controlled war will have to have important elements of limitation. Directly communicating to the enemy what the limitations you are observing are (targets, weapons, warning of attacks, etc.) can do much to limit a war. It might be difficult for an enemy to determine what your limitations are from simply observing impacts of weapons. The noise and disruption of war can be reduced if we communicate with him directly.
- Sanctuaries--Communications facilities may become sanctuaries because their existence is an important source of information to the enemy if we communicate with him. The survival of the National Command Authority is vital if we want to terminate or limit the war.
- Reduce the chance of escalation--Communications can reduce the chance of escalation by reducing the uncertainty the enemy faces. (It might also increase it for the same reasons.) If the war itself had been caused by a misunderstanding, communications could be very important in terminating it.
- Prevent accidental or catalytic wars--Information about the status of enemy forces might prevent such a crisis from becoming a full-scale war.
- Sudden allies--Enemies in time of crisis may find that they have similar interests involving third parties, and communications may be necessary to set these alliances of convenience up (p. 83).

There is no certainty that communications will be effective in accomplishing this in a crisis or war, but a fair chance of saving tens or even hundreds of millions of people must be taken. There are also potential costs involved in such communications. They include:

- Traps--The enemy may deliberately communicate misinformation.
- Disclosure of Secret information--This may hurt military operations and is a danger, yet much information is overclassified and in any event normally Secret information about status of forces will be communicated in a crisis in an effort to deter the enemy.
- Political costs--It may disrupt alliances (pp. 85-86).

Yet, except for all-out war, some communication with the enemy should be attempted. Military attacks should have some relation to the objectives of the war, and these objectives should be communicated to the enemy. In these communications we should:

- Don't lie--We should not transmit inaccurate information when we don't have to because such a tactic reduces the credibility of what you tell the enemy.
- Enhance credibility--The use of key information and information that the enemy can confirm can increase your credibility with him. We might even transmit to the enemy selected military documents because these would be available and the time factor is important.
- Embassies should be kept open--The Embassy officials can be helpful in interpreting messages from the enemy and in predicting what his reaction will be to your potential messages. Should the embassy be allowed independent contact with Moscow?
- Go slow--There is great pressure for fast action in nuclear warfare. We should allow the enemy the maximum amount of time for reflection and the formulation of a new policy.
- Don't meddle--We know too little about the other side's Government to try to meddle. It may backfire if we do (pp. 86-88).

Every attempt should be made to establish communication during a crisis. We must make sure equipment for this exists.

Controlling Assumptions

The study of nuclear war is very unpopular, but this must not be a controlling condition. Nuclear war is not very likely, but the tremendous potential it has for destruction demands that we study it and make every effort to limit its consequences. Saving tens of millions of lives in the

event of nuclear war is a worthwhile objective even if a large number of people are killed anyway. We must study intrawar communications as a method of damage limitation.

Implications for War Termination

Communications with the enemy may prevent escalation of a limited nuclear war and may help in terminating it. Communicating specific information about the limitations one is observing can help to establish agreed limitations to the conflict and prevent the noise of war from becoming dominant. It can certainly be very effective in terminating accidental wars. There are also some dangers involved--traps, misinformation, and disruptions of an alliance--but these risks must be taken because hundreds of millions of lives may be involved.

We should not lie when we do not have to in communications with the enemy. Sometimes it may be necessary to transmit classified information and documents. Enhancing credibility may be very important in nuclear war communications and precrisis communications. We should go as slowly as possible in a nuclear war to give the enemy time to think and to reformulate his policies.

Edward O. Stillman, "Civilian Sanctuary and Target Avoidance Policy in Thermonuclear War," Annals of the American Academy of Political and Social Science (November 1970).

Summary

The author rejects the contentions of some that attempts to rationalize war are inhumane because they make war more likely. He advocates a city avoidance strategy on the grounds that attacks on urban centers serve no purpose. Wartime production and morale are irrelevant in a thermonuclear war. By preserving the enemy population as a hostage we may be able to deter attacks on our own cities, and those of our allies. The protection of the people from military attacks is the main business of government. Civilian target avoidance may reduce deaths from hundreds of millions to the 1-to-20 million range. "This would be no mean achievement" (pp. 117-120).

Civilian sanctuaries can be defined geographically in any agreement prohibiting urban attacks. There may be provision for warning before attack. The largest cities can be evacuated within 24 to 48 hours if preparation has been made in advance. An understanding, probably informal, can be arrived at in which the weaker side will spare cities. The winner of such a war may force the loser to evacuate his cities. In today's climate the acceptance of such a sanctuary concept is only remotely possible (pp. 121-123).

In the event tactical atomic weapons are used in a European conflict a sanctuary in Eastern Europe might encourage the peoples of Eastern Europe to revolt against the Soviets. If the Soviets initiate attacks on cities, our announcement of a sanctuary policy might bring these attacks to an end (pp. 127-128).

Counterforce attacks could be used to defeat China if they were combined with a sanctuary policy and limited countercity attacks of a demonstrative nature. We might detonate a bomb 500,000 feet over Peking and declare that only U.S. restraint is saving the people of China from destruction. The Chinese leadership might be forced to give in by popular pressure if we were to announce that ten cities were possible targets and then attack one as a demonstration and put delayed detonation bombs in three others. The policy of giving sanctuary to the rest would emphasize U.S. self-restraint (pp. 130-131).

Controlling Assumptions

Nuclear war is possible and something must be done to limit the damage it would cause. It is the business of government to protect people from military attack. We cannot ignore such efforts by telling ourselves that reducing the amount of damage that would occur rationalizes war and makes it more likely. Human life is presumed to be the highest value on both sides.

Implications for War Termination

A declared policy of sanctuary can be used both offensively and defensively depending on the relative power relationships between the opponents. If a great disparity of power exists in favor of one side, it may destroy its opponent's forces by counterforce attacks and use limited terroristic strikes to create a rebellion against the opponent's government.

Recommended Strategic Force Options

The United States should adopt a counterforce city avoidance strategy. In any war with the Soviets a policy of urban sanctuary should be adopted as a damage limiting measure. If possible an agreement formalizing the urban sanctuary concept should be negotiated with the Russians.

Barrett S. Albert, A Direction for Strategic Deterrence in the USSR's
(Philadelphia: General Electric Research and Environmental Systems
Division, August 1971).

Summary

In the emerging environment of U.S. strategic inferiority, Assured Destruction (A.D.), and all of the traditional strategies of extended deterrence are inadequate. The Soviets will be superior in numbers, and the cold war may intensify as a result. A.D. capabilities are needed to deter a spasm attack but we also must deter less-than-spasm attacks—limited strategic attacks and Soviet attacks on Europe. U.S. strategy thus far has had an ivory tower orientation. It has assumed falsely that Soviet goals are identical to our own. We must look at Soviet objectives before we can work out a useful strategy. The Soviets want to maintain party control, increase Russian power, complete the Communist revolution in the USSR, improve their economic strength and standard of living, and in the international realm improve their security and expand aggressively. They want to displace the United States as world leader (pp. 1-11).

Our strategy for less-than-spasm attacks should be to deter them by our ability to interfere with a cherished Soviet goal. The Soviets have many weaknesses in their control structure. They have a severe nationality problem. Limiting their economic growth will hurt Government control. Attacks on basic sustenance capability will cause severe disorder. A.D. is not an adequate response to less-than-spasm attacks. The Soviets have significant civil defense capability and substantial evacuation capability. Moreover, we may just be killing people who are potential trouble spots for the Soviet Government in their postattack recovery efforts. We should calculate the value of an evacuated target. It would be wise to concentrate attacks on logistics, general-purpose forces, transportation in general, and possibly agricultural environmental attacks. Soviet agricultural resources are limited and these attacks can be very disruptive. Attacks on general-purpose forces can destroy the basis of Soviet social control over dissident minority elements in the Soviet Union and the satellite states. Nuclear attacks on satellite areas can kill the very people who would help us in a postattack situation because of their threat to the Soviet system. We should avoid attacks on minority elements and satellite areas and should concentrate

attacks on White Russia. The more the Soviet system expands the more vulnerable they will become to these kinds of attacks (pp. 12-23).

The Soviets have a major border defense problem in the Far East. The Sino-Soviet split is very deep. War in this area is possible. Yet Soviet logistics in the Far East depend on the Trans-Siberian Railroad and hence are very vulnerable. Destruction of this and Soviet general-purpose forces in the Far East could open the door to a Chinese invasion. The Chinese would not want to help us but they could not resist the opportunity to regain lost territory (pp. 16, 36).

The United States needs the capability for highly selective attacks with low collateral damage to destroy vital military targets in urban centers without causing general destruction. We need high-accuracy low-yield RVs with special weapons effects, such as earth penetrators for making small areas radioactive, controlled radiation weapons for making areas uninhabitable for a period of several years, good penetration systems, fallout-producing weapons for some types of ABM avoidance, and the ability to attack exposed Soviet naval forces and SLBMs. We need, of course, enough survivable strategic forces and enough penetration capability for an A.D. response to Soviet spasm attack, and improved civil defense and evacuation. It will prevent considerable war-outcome disparity (pp. 23-25, 41-43).

The ability to destroy Soviet logistics and general-purpose forces in the USSR could stop a Soviet invasion of Western Europe. Civil defense is vital in such a limited strategic war over an invasion of Europe. In some cases we might force evacuation of cities by limited urban attacks not specifically designed to kill people. This would be very disruptive of the Soviet war effort. Economic attacks that create sustenance problems can prevent the continuation of the war by creating starvation and civil disorder. Cities in areas hostile to the Government should not be attacked to create a maximum of discontent. Transportation attacks can contribute to the economic disorder as well as hurt military capability, thus increasing vulnerability to Chinese attack and satellite rebellion. Attacks on command and control might disrupt military capabilities considerably. A

simple statement that general-purpose forces would be attacked in the event of a Soviet invasion of Europe might be enough for the Soviets to get the message (pp. 25-36).

Controlling Assumptions

The Soviets are expansionistic because of ideological reasons and we need credible deterrents to avert Soviet thermonuclear attack on the United States and our allies and Soviet initiation of local wars. The Soviets are driving toward military superiority and it seems like they will achieve it. We must now develop strategies that are credible in this new strategic environment. To find such strategies we must look for weak points in the Soviet world posture and fully exploit these.

Implications for War Termination

The author does not directly address the problem of war termination but much of what he says has significant implications. A relatively small number of low-yield weapons might be used to exploit Soviet fears of dissident elements and satellite rebellion or Chinese attack. Threats of this type of attack might be very useful in terminating a conflict with the Soviets. Limited logistics attacks on the USSR may be a way of stopping a Soviet invasion of Western Europe and this could set the stage for a political settlement of the war. The idea of attacks on weak spots in the Soviet strategic situation might even be useful for terminating large-scale counter-force wars.

Recommended Strategic Force Options

The United States should maintain a reliable survivable A.D. capability with a good capability to deter spasm warfare. In reply to less-than-all-out attacks we should attack war-related industry in great Russia, logistics capabilities, electric power, dams, general-purpose forces, agricultural capability, and command and control. We need a variety of new weapons including: (1) low-yield weapons; (2) high-accuracy weapons; (3) earth penetrators; (4) low fission yield; (5) local fallout producers; (6) controlled

radiation weapons; and (7) maneuverable reentry vehicles. These will give us capabilities for surgical attacks.

We must develop a capability for real time intelligence gathering and evaluation. We should give our reconnaissance satellites the ability to defend themselves and we need a survivable capability to replace satellites shot down during a war.

We need a survivable command and control capability. Further study is needed of the effects of environmental attacks on agriculture.

Bernard S. Albert, "Objective Deterrence": A White Paper on Expanded Realistic Deterrence (Philadelphia: General Electric Reentry and Environmental Systems Division, January 1972).

Summary

Defense policy must be formulated with the view to a capability to respond to changing strategic conditions while maintaining options for the national leadership. It must be effective over a wide range of political-military environments. We must recognize an interaction between defense, economic, and political policies. We face a possible Soviet threat of 2,000 ICBMs, 1,200 SLEMs, and possibly a new Soviet bomber. The Soviets are upgrading their civil defense establishment. Their R&D (especially in ABM and ASW) is continuing to increase. The Soviets may also be out to achieve parity but this does not seem to be the case. If the above threat emerges we will have fewer and fewer options and there will be more likelihood of escalation in the event of any major war (pp. 1-2).

For the past twenty years we have designed strategy with inadequate knowledge of our enemy. Because of the mirror image concept the supposition that U.S. superiority has had no effect on China is distorted into the view that Soviet superiority will have no effect on the United States. Yet, the United States only made minimal use of nuclear threats against China. If the United States takes no action against the Soviet buildup, third countries will perceive a radically different balance of power between the United States and the USSR. The USSR is likely to become more aggressive. The United States will have a reduced capability to deter Soviet expansion. Even if the Soviet buildup ends in 1972, we will face many problems of confrontation and decreased deterrence. The Soviets are making a major effort to achieve superiority and they have a history of using strategic threats. SALT at most will lead to a very limited agreement that will convert the arms race into a qualitative phase (pp. 4-7).

We will not have any sort of massive retaliation or first-strike capability because of the Soviet buildup. We may lose any limited strategic war option. The Soviets may even get a first-strike capability. Civil defense alone could give them an effective damage limitation capability.

The Soviets estimate that their civil defense and evacuation capability give them the ability to limit damage to 5 to 8 percent of their population (pp. 11-12).

Soviet strategic superiority would disrupt the U.S. alliance system and increase the U.S. tendency to rationalize defeats. The result could be more Soviet aggressiveness. There would be pressure on U.S. allies to go neutral. A final overreaction by the United States could lead to war and a great danger of escalation (p. 13).

U.S. defense policy should cost no more than 7 percent of our GNP. It should be insensitive to changes in Soviet weaponry, subject to incremental changes, obvious in intent to the Soviets, should retain other options, and deter Soviet expansion without escalating the arms race. Strategic war capabilities are most important because they to some extent deter conflict along the entire spectrum. Many minimize the chances of less-than-spasm war but we must deter conflict along the entire spectrum. If the U.S. population were considerably more vulnerable than the Soviets, nuclear war might become more thinkable to them (pp. 15-16).

If the Soviets become strategic superior, less can be deterred by strategic deterrence. Political deterrence depends very much on the quality of the people involved. Some political deterrence requires military capabilities.

We need an Assured Destruction capability to deter spasm war. With nuclear proliferation, less-than-spasm deterrence becomes more important. If we show no interest in deterring a conflict, its chances automatically increase. We must have the ability to deter all forms of Communist aggression. Alternative strategies that have been proposed include Counterforce, Denial of NATO aggression, National Entity Survival, Assured Destruction plus conventional emphasis (2 1/2 wars), and Assured Destruction plus naval expansion. These strategies do not meet most of the outline's guidelines. We are hampered by a mirror image concept of enemy sensitivity (pp. 18-20).

The party goals in the USSR are not the same as national goals. They include the preservation of the leadership over the Soviet state, the physical preservation of the USSR, Sovietization of the nationalities, advancement of the World communist movement, social transformation of Soviet society,

completing the industrial revolution in the USSR, improving the standard of living of the Soviet people, maintaining Soviet security, expanding Soviet strategic power, and displacing the United States as world leader (pp. 20-21).

The author recommends an approach to deterrence that inflicts loss rather than denying gain. It risks an expansion of the cold war, but it is better than an expansion of the arms race or confrontation with the Soviet Union. In the strategic area this policy involves attacks on general-purpose forces, a criteria of evacuated value of cities, and environment attacks on agriculture, power, and rail transportation. The threat to attack Soviet general-purpose forces is an effective deterrent at high levels of nonspasm war. The Soviets are vulnerable in the Far East because of China and they have major security problems in East Europe and with their national minorities. Attacks should be made mainly on great Russian forces. City attacks are possible at higher levels of nuclear war with both nuclear and nonnuclear weapons. We should develop weapons that can destroy isolated urban values without killing people in large numbers. Destruction of sustenance capabilities will destroy Government control. Our target criteria should be the degree of political control, the contribution of the target to limited strategic operations, its logistics value, and its ethnic identification (pp. 22-30).

The technology now exists for attacks on transportation and environmental factors with a minimum of population fatalities. Loss of central control could result. Assured Destruction is an important capability but it may fail to deter war. A mad dictator, escalation, force vulnerability, technological breakthroughs, or enemy first-strike capabilities could start a war. We must maintain survivability and penetration capability and a high level of research on ABM. If the Soviets develop even temporarily a "near ultimate" ABM we would be forced out of Europe as a result. The Soviets might obtain a first-strike capability from force expansion and/or civil defense. Yet, even if they do, damage from our residual capability might still be considerable especially if we design our forces for environmental attack and on an evacuated value concept. We need civil defense, however, to prevent a massive disparity in population risk. We should also emphasize evacuation because it is the cheapest option. With our population less vulnerable, we will have more options (pp. 30-32).

We must formulate subpolicies for tactical deterrence but this is very difficult because of the disagreement over the role of tactical nuclear weapons in our strategy. We might use Iron Curtain escapees in special-forces type units that would be dropped into the enemy rear in the event of a war to foment revolutions. Psychological warfare capabilities can be made much more effective. Strategic support of China could be a political deterrent. The extent of it could depend on the extent of Soviet aggressiveness. Supplying the Chinese with heavy road or railroad construction machines would be a great threat to the USSR. Helping the Chinese set up a truck construction industry would be a similar threat (pp. 32-33).

Psychological warfare could be used to attack the Soviets on the lack of free emigration, internal passports, and the right of nationality groups to develop an independent culture. We could make much more effective use of the Voice of America. Research in psychological warfare should be conducted. Our defensive attitude of containment should be altered into one that inflicts pain in response to provocation (pp. 36-37).

All our deterrence policies should involve the minimum destruction of noncombatants. If population is to be attacked, we should attack those that most strongly support the Russian Government. We should attack targets with a maximum of bargaining effect. Soviet GP forces should be attacked in the USSR rather than in the satellite areas if possible. If cities are to be attacked we should attack primarily great Russian cities. Fallout and possibly blast should be controlled. Controlled radiation weapons may make areas of cities uninhabitable for a period of time. Surgical destruction of factories, dams (causing floods), forest fires, in some cases fallout, and earth penetration weapons can be used. We can use weapons that can produce controlled radiation, enhanced or suppressed neutron output, better yield-to-weight ratios, good penetration capabilities, enhanced fallout capability, and high accuracy. Maneuverable warheads will give us better penetration. Clean weapons will be useful in many cases (pp. 40-43).

We need good intelligence and bomb damage assessment capabilities. We need real time intelligence and intelligence processing capability. Satellites must be made survivable and so must their communication. We need a survivable military and civilian command and control capability. Satellite replacement capabilities must be obtained (pp. 43-44).

Objective deterrence may be hawkish and inconsistent with reduced tension but we have no alternative except weapon proliferation. Only part of the strategy should be publicly endorsed by our government--GP force attack and evacuated value concept. The rest should be relayed by unofficial publications (p. 50).

We do not want to over-deter or cause irrational Soviet responses. We must develop a capability to use the full range of outlined options selectively in a crisis (p. 50).

Controlling Assumptions

The Soviet Government is intensively expansionistic and is out to achieve strategic superiority. An Assured Destruction posture is not an adequate response to the Soviet challenge. Our allies will act in their own interests and hence if we do nothing to counteract the Soviet threat our alliance system will collapse.

The Soviet leadership is basically self seeking. They give a higher priority to their retention of power than to the physical survival of the Soviet state. They would be more willing to see tens of millions of Russians die than to lose their power. Hence we should base our strategy on the sensitivities of the Soviet establishment and on their desire to maintain their power position.

Implications for War Termination

The issue is not directly addressed by the author, but the implication is that if we shape our strategy in such a way as to limit the amount of destruction of civilian populations, the chances of war termination are improved. The theory of attacking Soviet sensitivities may have significant application to a theory of graduated response to limited strategic attack. A series of slow-motion attacks on Soviet values designed to have long-term effect rather than immediate consequences might persuade the Soviets to terminate the conflict. Yet, the question of Soviet reaction is critical. Will the Soviets react differently to attacks on high-value targets with immediate effects? How would attacks of the type Albert recommends affect the chances for escalation?

Recommended Strategic Force Options

The United States should take steps to improve the survivability and penetration capability of our strategic forces. We should develop sophisticated strategic weapons systems that are low in yield, low in collateral damage, highly accurate, some of which are maneuverable and some of which have controlled weapons effects--low fallout, high fallout, enhanced and suppressed radiation (neutron) output, controlled radiation, earth penetrators, very-low-yield (tons) tactical weapons weighing tens of pounds. We must develop real time intelligence collection and evaluation capabilities. We need survivable satellite and satellite communication and replenishment capability. Command and control centers must be made survivable. Psychological warfare capabilities must be developed for purposes of political deterrence. We may have to develop special political units to operate behind enemy lines in Europe in the event of war.

Summary

Even with a SALT agreement the possibility of general war exists (p. 92). It is possible that urban areas will be targets in such a war. This might be prevented if we sign a treaty with the Russians banning nuclear attacks within a 50-mile radius of urban areas (p. 93). This kind of treaty might weaken deterrence somewhat but not enough to be significant. Many military targets exist, and counterforce attacks against these would still produce enough damage to deter nuclear war. Millions of casualties would still be the result of such a war because of blast and fallout (p.95).

Urban areas are not important in relation to victory in a nuclear war. Humanitarian considerations are also involved. The Soviets rejected counterforce in the past, but this may not be the case today because of the changed balance of military power (pp. 96-97).

Controlling Assumptions

The amount of deterrence that exists to war depends on the quantity of urban-industrial destruction that will result. Both sides will be deterred by the fact that they would suffer several million casualties in a counterforce war. The existence of a treaty banning attacks on urban areas will make such attacks less likely in the event of war.

Implications for War Termination

The issue of war termination is not directly addressed. The only implication of this paper for war termination is that if such a treaty were to keep damage level in the event of a nuclear war to low levels and both sides survive as national entities, there might be more opportunities to terminate the war on an acceptable basis.

Recommended Strategic Force Options

The United States and the Soviet Union should conclude a treaty banning attacks on urban-industrial centers or targets within fifty miles of these areas. Military forces should not be placed within a fifty-mile radius of these centers.

James M. Roherty, Decisions of Robert S. McNamara--A Study of the Role of the Secretary of Defense (Coral Gables, Florida: University of Miami Press, 1970)

Summary (of Views Attributed to McNamara on Strategic Warfare and Weapons)

McNamara introduced the idea of technological plateau combined with a conservative logistical strategy for the procurement of strategic weapons. Attempts to achieve damage limitation through strategic defenses were a spur to the arms race and were "provocative." The cost-effectiveness of a weapon had to be confirmed before production (pp. 165-167).

After four years of indecision, McNamara came up with the idea of Assured Destruction and Damage Limitation as the primary goals of strategic forces. Lip service was given to Damage Limitation but no doctrine or tactics were adopted to achieve it. At the University of Michigan speech in 1962, McNamara laid down some rules for strategic warfare but he did not believe the Russians would obey them (pp. 107-115).

The strategy of Assured Destruction assumed that virtually all Soviet wealth was confined to their 200 largest cities. Forces that could destroy these in a second-strike situation were procured. McNamara argued our existing forces could easily accomplish this goal. Bombers were not required for it. Assured Destruction visualized the destruction of only soft targets and a small number of residual military targets. Counterforce tactics seemed largely obsolete to McNamara in 1965. It, to be effective, required a first strike and U.S. strategy rejected this. Damage Limitation had no reality in force planning after 1967 (pp. 116-117).

From 1966 onward, McNamara argued against the deployment of an ABM. The great improvements being made in ABM technology did not change his position. He showed a constant bias in favor of defense. His arguments based on cost-effectiveness declined in persuasiveness as the years went on. McNamara rejected a new manned bomber because of its capabilities for damage limitation (pp. 116-120).

Controlling Assumptions

McNamara's concept of the arms race and the proper standards for the procurement of U.S. weapons systems was basically wrong and dangerous.

Technological plateaus do not exist. The arguments on the basis of cost-effectiveness which were frequently put forth by McNamara were defective and ignored many important implications of these systems. As a result the United States rejected important weapons systems like the nuclear carrier and the manned bomber.

Implications for War Termination

In the McNamara philosophy of strategic force requirements, war termination or fighting plays no part.

Recommended Strategic Force Options

The United States should reconsider and probably reject McNamara's conservative logistic strategy. McNamara's major weapons decisions should be reconsidered and less importance placed on detailed systems analysis studies in the procurement decision process.

General Lewis W. Walt, America Faces Defeat (Woodbridge, Conn.: Apollo Books, 1972)

Summary

For at least the next five year the United States faces a period of considerable danger and the possibility of national defeat. The very national survival of the United States is endangered by a combination of the Soviet buildup of military forces, the decline of our military capability, and the decline in our national morale, strength, and sanity (pp. 10-17, 209).

The Soviets are making a major effort at a first-strike capability through their deployment of giant SS-9, ABMs, air defense weapons, Y-class missile submarines, ASW forces, and FOBs. That effort may be successful. Our fixed land-based missiles and bombers are vulnerable, and our Polaris submarines are far from invulnerable. The Soviets are building advanced attack submarines to shadow our Polaris forces and they may have made some breakthrough in ASW that we have not. We need advanced missile submarines and advanced bombers (pp. 10-16).

The capabilities of the Army in terms of combat readiness were hurt very much by Vietnam. During the war non-Vietnam units lost much of their combat readiness. The Army tried to recruit men by offering them the soft life and this policy has failed. The Air Force is hampered by reduced strength and lack of modern bombers and interceptors. The Navy is rusting away in a period in which the Soviets are making a major drive for Naval superiority. Their cruise missiles are a major threat to our surface fleet. They may be in a position to force us out of the Mediterranean and the Indian Ocean. Only the Marine Corps has emerged in a stronger condition from the Vietnam experience (pp. 65-120).

Our national fabric is being torn apart by drugs, pornography, the decline of moral standards, anti-American propaganda in the news media, and leftwing subversion. The Communist Chinese are playing a large role in the drug trade and their goal is to weaken the United States. These things must be corrected or we will face national decline (pp. 155-179).

Controlling Assumptions

A nation's security is mainly dependent on its moral strength and the power of its armed forces. A major and growing threat to the national security of the United States exists from the Soviet Union and especially Communist China which is a far less rational state. The decline of traditional American values and moral standards enhances this threat. Only the rebirth of a rational defense policy can save the United States.

Implications for War Termination

The problem of limited strategic war and war termination is not addressed.

Recommended Strategic Force Options

Most elements of the Armed Forces of the United States need to be strengthened. In the strategic field the United States should deploy the Trident missile submarine, an advanced strategic bomber, and heavy bomber and missile defenses, and should increase expenditures for research and development. We should especially invest heavily in laser technology.

Francis P. Hoerber, SALT I: The Morning After (Santa Monica: The Rand Corporation, P-4867, July 1972)

Summary

It is argued that the SALT I agreements end the arms race, but one can question whether there has been an arms race in recent years. U.S. strategic forces have been stable in recent years while those of the Soviets have significantly increased. The Soviets have made major increases in throw weight while the United States has only been slowly increasing its throw weight. U.S. warhead expansion has been at a more rapid rate than the Soviet expansion (pp. 1-2).

The Administration argues that stopping the Soviet numerical buildup is a net gain for the United States. It claims parity has been established, yet it also claimed parity existed in 1969 when the Soviet forces were one-half of what they are today. The Administration argues that the U.S. advantage in warheads and bombers compensates for the Soviet advantage in numbers of missiles, throw weight, and megatonnage. Several hundred Soviet SCLM, the Soviet air defense system, our FBS and the Soviet IREB, MRBM, and medium bomber forces are ignored in this analysis. It is further argued that the balance of military forces does not mean anything as long as we have Assured Destruction (pp. 2-3).

The Administration seems to be assuming that the Soviets will have only 3,000 warheads by 1977, compared to 7,500 for the United States. Yet, we have recently observed Soviet MIRV testing and they have, according to Laird, the ability to deploy these in two years. We could postulate conservatively 6,500 Russian warheads if they put 6 warheads on a SS-9 and three on a SS-II. The real warhead balance of 1977 could be parity or even as much as a 5-to-3 Soviet superiority. Even then the Soviet MIRVs would be in the 1/2-megaton-to-1-megaton range while ours would be in the 50-to-150-kiloton range. The Soviets could have a hard target kill capability with their MIRVs, while our MIRVs, with current accuracy and our policy of not improving it, will not. Even if we did improve our accuracy the Soviet megatonnage superiority would still be an advantage because they can improve their accuracy also (pp. 3-4).

If the Soviets catch up in MIRV technology in the next five years, and they can, they could deploy 20,000 MIRVs. This could have great psychological value if we are right about our argument that the number of missile warheads is the crucial measure of strategic superiority. They may not deploy that number because they don't have enough targets or they may not be able to develop the technology (although there seems to be no reason why not) or they may invest heavily in SLCMs, mobile ICBMs bombers, and other nonlimited weapons. But the important point is that the agreement leaves this option open for them (pp. 4-5).

U.S. objectives in the 1960s were deterrence and stability through mutual Assured Destruction (AD). The Sufficiency criteria are a modification of AD. Neither AD nor Sufficiency are adequate for the United States. We need forces that give up options if deterrence fails because a spasm AD launch is not a logical alternative if it does fail. We need forces that contribute to intrawar deterrence of city attacks. We need forces that can limit the enemy's ability to launch further attacks and terminate the conflict. AD does not give us the capability to respond to less-than-all-out attacks (p. 5).

A desperate Soviet leadership might launch a small attack. The U.S. President would not be able to defend against such attacks because of the ABM treaty and would have no options if we had only an AD strategy. If the Soviets have 6,000 or even fewer high-yield MIRVs, they may have a CF capability against Minuteman. A few additional warheads would destroy many of our Polaris submarines in port, and a fraction of the Soviet SLBM force could destroy our bombers on the ground. Under these circumstances the American leadership might allow the Soviets to keep whatever gains they had made in Germany or the Middle East or whatever crisis had precipitated the attack (pp. 5-8).

Even the appearance of such Soviet superiority could affect the U.S. position in the world. Neutrals and allies would be more vulnerable to Soviet pressure. We can in part avoid this by improving our strategic force survivability, but SALT has closed many options including the defense of our strategic forces (we should still continue ABM R&D as a safeguard), and we have unilaterally given up the right to deploy land mobile missiles.

SLBMs are far from invulnerable but we must deploy both the ULMS I and the Trident to both increase survivability and give us bargaining chips. We should deploy the B-1 in larger numbers than we had planned because of possible improvements in Soviet defenses and the impossibility of defining what is a heavy bomber for the purposes of limitation. SLCMs cannot be evaluated at this time, but they might even be more important for a quick fix option on surface ships (pp. 8-14).

We should look at options for counterforce, including improved accuracy and higher yield warheads. We have many verification problems. It is difficult to see how we can save money from SALT. Most goes to conventional forces and hence MBFR should be pushed. We should put more money into advanced technology like lasers. Options for warfighting capabilities should be fully exploited. China and other Nth countries must be fully taken into account. Further strategic force reductions along current lines will cause even greater problems for us. Soviet strategic superiority will not allow minimum U.S. international objectives to be reached. The withdrawal option in the SALT agreement is highly destabilizing. We must push R&D and go ahead in weapons that are not covered by the agreements (pp. 14-18).

Controlling Assumptions

The world we live in contains many crisis situations, and the strategic nuclear balance to a large extent determines the risks the United States and the Soviet Union will take. The SALT agreements give the Soviets the option of obtaining important elements of strategic nuclear superiority and indeed a first-strike option against our land-based strategic forces. Strategies that give us an all-or-nothing option if deterrence fails are inadequate. Because wars are possible, we must have warfighting capabilities.

Implications for War Termination

To terminate a war, strategic forces must be capable of intrawar deterrence of countercity attacks. To do this they must have adequate long-term survivability, capability to penetrate advanced defenses, and a hard target kill capability. Procurement of our forces on the basis of an Assured Destruction strategy will not give us this capability. A longer range submarine missile may be required to give submarines capabilities for conducting limited strategic attacks.

Recommended Strategic Force Options

We must maintain our strategic force survivability. Under the SALT agreement this means the deployment of the B-1, Trident, ULMS I missiles in Poseidon submarines, and possibly SLCM. We must develop more accurate and possibly higher yield MIRVs. More money must be put into research and development in advanced weapons concepts and technologies such as laser research.

"Statement of Dr. William R. Van Cleave Before Senate Armed Services Committee" in U.S. Congress, Senate Armed Services Committee, Military Implications of The Treaty on the Limitation of Anti-ballistic Missile Systems and The Interim Agreement on the Limitation of Strategic Offensive Arms (Washington: Government Printing Office, 1972)

Summary

The strategy of Assured Destruction was based on a very simplistic model of a nuclear exchange which assumed spasm American retaliation against a Soviet first strike in which all U.S. strategic forces had been expended against the United States (p. 585). The Soviets may obtain the ability to launch a disarming attack on the United States that could destroy U.S. Minuteman and bomber forces with only a small part of their forces. With the rest they could retain a massive Assured Destruction capability to deter a U.S. second strike against their cities. Would the United States, faced with such a massive Soviet third-strike Assured Destruction capability, retaliate against Russian cities? "With only a reduced assured destruction force remaining, the United States is left in a position of being the initiator of a counter city war when that is the last thing I should think we would want to do" (p. 585). We might not retaliate against Soviet cities in this situation. Hence we must have the ability to conduct second-strike counterforce attacks. "It seems to me we must have the option of conducting limited strategic operations, particularly counterforce, and of limiting damage to ourselves in a significant way, and I think we ought to look very seriously again at our position on defense, including civil defense. I think we ought to look very seriously at the capabilities we have for rapid force reprogramming and retargeting and for the ability to conduct timely counterforce operations..." (p. 585). To deter counterforce attacks against us we must have no vulnerable strategic forces (p. 590).

Controlling Assumptions

The United States and the Soviet Union are in a conflict situation and the Soviets will exploit every opportunity to advance their interests at the expense of ours. They set a high value on strategic nuclear superiority and believe obtaining such a capability will increase their

international political power. They will make a major effort to do so. The threat of Assured Destruction is not a credible response to a counterforce attack when the attacker has a much larger Assured Destruction capability than the defender does. To deter a counterforce attack we must have no vulnerable strategic forces and our forces must be capable of counterforce attacks.

Implications for War Termination

If the Soviets obtain the ability to destroy virtually all of our land-based strategic forces using only a small fraction of their strategic capability, we will be in a position where we cannot retaliate because we have only the nonusable option of city destruction. This would, of course, terminate the war, but not in a manner which would achieve our basic national security objectives.

Recommended Strategic Force Options

The United States should maximize the capability of our strategic forces for counterforce attacks. We should assure that no element of our strategic forces is vulnerable to attack. The ABM treaty prevents this and hence we should not ratify it. We should reject the SALT treaty and take another look at active and civil defense. Even if we ratify the treaty, there are many things we can do to increase our strategic capabilities--improve strategic force penetration and survivability, invest heavily in research and development, invest in civil defense, deploy nonprohibited strategic systems, and improve our counterforce capabilities. We should develop a capability for rapid retrofit and reprogramming of our strategic forces.

Malcolm Hoag, Alternative Strategic Force Planning Criteria: Some Implications for Nuclear Guarantees, Proliferation and Alliance Diplomacy
(Santa Monica: The Rand Corporation, P-885PR, November 1971)

Summary

The Assured Destruction based arms control philosophy sees counter-military capabilities as destabilizing and the cause of the arms race. This is unfortunate because SALT must allow for qualitative improvements or nuclear proliferation will occur. Superpower guarantees would have more validity if increased accuracy and low collateral damage systems existed. A controlled nuclear response capability can deter Nth power attacks and would transfer the onus of starting city-busting war to the Nth country. Technical improvements can make Nth country deterrents impossible (pp. iii-vi).

The idea that moral considerations resulting from a successful SALT treaty would deter Nth powers from going nuclear is unrealistic. Nth powers will go nuclear for strategic needs. Many possible Nth powers will be no threat to the United States, but some can be. Germany and Japan are potential threats to the Soviet Union (p. 5).

If ABMs are restricted and discriminating hard-target killers are not developed, the task of an Nth power becomes much easier and cheaper. The same theory that proscribes ABM could equally prohibit air defense. If we did that any country with a Boeing 707 could cheaply obtain a strategic delivery system. Nth country planners could reasonably argue that the ability to destroy five percent of the enemy population is almost as good a deterrent as the ability to destroy 50%. If we have a controlled-response, hard-target capability we could destroy an Nth country's military capabilities while holding his cities as hostages. A small deterrent capability might prevent U.S. action in the event of an Nth power threat to a U.S. ally and this could destroy our alliance systems (pp. 7-9).

We must distinguish the difference between a light ABM and controlled-response, hard-target capability and a major damage limiting capability against the Soviet Union. For a variety of reasons, including domestic politics and U.S. defense planning, we will never again achieve this. Indeed, budget limitations are so strong that we might even have to reduce

the Assured Destruction requirement to get the flexible response capability. Our minimum requirements would include a global survivable command/control and communications system, hard-target low-yield MIRVs, preplanned limited response capability, and the ability to develop new plans in crisis and a limited ABM. Such a capability would not in any way be a considerable damage limiting capability against the Soviet Union (pp. 13-15).

Such a capability would effectively deter China from using nuclear threats against our allies if we are allowed MIRV under SALT. MIRV would buttress our theater forces. For use against China they should have low-yield, high-accuracy, and limited tactical warning time. A Chinese capability against the Soviets is desirable from our standpoint, but in order to get it under SALT we would have to accept vulnerability as well which is not desirable. Hard-target-discriminating MIRVs would make the Chinese task of obtaining a deterrent very difficult. Hardness would not be enough. Land mobility is difficult, costly, and of uncertain effectiveness. The penetration requirements for the U.S. and Soviet ABM systems are different. A higher accuracy Poseidon for use against China is desirable. A MM-3 MIRV system with greater accuracy would be useful against Soviet European satellite targets (pp. 20-23).

The same type of ideas about hard-target MIRVs and discriminating military capabilities exist abroad. We must make a determined effort to change them. This should be relatively easy since U.S. capabilities of this type are in the interest of our NATO allies. The French doctrine on strategic weapons is incompatible with a controlled response strategy. We might support British and French nuclear collaboration in order to get them to change their doctrines. Only a flexible response strategy will be credible (pp. 29-38).

Controlling Assumptions

The Assured Destruction doctrine and its related arms control concepts are inadequate because they ignore the problem of nuclear proliferation and the Nth power deterrent problem. Hard-target low-yield MIRVs and effective light ABM systems are now technically possible. We can explain the difference between a controlled response strategy against military targets and a damage limiting or first strike strategy.

Implications for War Termination

There are no direct implications except for the fact that we must be able to survive a nuclear war in order to terminate it. The problem of termination in Nth power-superpower nuclear conflicts would be much easier if the war were confined to military targets, civilian damage could be kept very low, and we could destroy all the Nth country nuclear forces. This is very important in relation to the China problem.

Recommended Strategic Force Options

1. Develop and deploy hard-target MIRVs of low yield and low collateral damage.
2. Deploy a limited ABM system on a nationwide basis and maintain at least a limited nationwide ABM.
3. Allow the deployment of the above under any SALT agreement.
4. Develop a survivable command and control system.
5. Develop the capability for selective responses.
6. Develop a capability for rapid planning during crisis and war periods.

Thornton Reed, "Nuclear Tactics for Defending a Border," World Politics
(April 1963).

Summary

Strategic counterforce attacks would be considered only in a grave situation. Destruction would be nearly complete in Europe. The controlled exchange of nuclear weapons in a strategic campaign would have little effect on the ground battle. A dictatorship might be better at the exploitation of this kind of strategy. It might concentrate its attacks on a single dependent ally and use it to pressure the United States (pp. 390-391).

Warning might be given in a limited strategic campaign. It might be desirable to have a lethal area combined with other areas as sanctuaries. There is the question of how to react if the enemy uses offensive nuclear attacks. If the aggressor uses interdiction attacks we can reply in kind because it tends to favor the defender. The best response to enemy use of tactical nuclear weapons against our troops is replies against interdiction targets and even targets in the Soviet Union itself. Our answer to any carelessness on the part of the enemy would be still harder interdiction attacks. Counterforce strikes on a strategic level should still be seen as the ultimate way of keeping the war limited. "Making war an act of madness does not so much reduce the role of force in international relations as increase the role of madness." If the enemy expected to meet nuclear attacks he would hardly attack unless he was prepared to attack this way in the beginning (pp. 392-400).

Controlling Assumptions

There is a need for a credible deterrent to Communist aggression in Europe. It is desirable that this deterrent not contribute towards escalation and be linked with the objective that is being defended. Moral considerations must play a role in formulating the U.S. strategy. We cannot adopt an immoral strategy for reasons of convenience.

Implications for War Termination

Blunting and containing an enemy attack may be the best objective for U.S. strategy because containing the attack gives the enemy a reason for terminating the war without risking extreme escalation.

Recommended Strategic Force Options

Nuclear interdiction attacks should be launched in the event of a Russian invasion of Europe. We should announce both sanctuary and war zones in the event of a war. The use of demonstration attacks on one's own territory ahead of the enemy forces may be effective but not escalatory. If all else fails we should launch limited counterforce attacks against the enemy.

Richard B. Foster, "Unilateral Arms Control Measures and Disarmament Negotiations," Orbis (summer 1962)

Summary

The United States should develop a controlled response strategy which would "emphasize a capability of step-by-step response against a limited number of top military targets as well as a massive instantaneous response..." (p. 269). It is argued that the existence of such a flexible response capability would reduce the degree of deterrence by allowing the possibility of limiting the magnitude of our response. "This is true but the lack of such a capability would be a void in command flexibility should war occur" (p. 269). If our goal is simply deterrence, a controlled response capability is not important, but if we want to prevent escalation it is very important. The decisionmaker must have enough time and information available to him to grasp the consequences of the decisions he must make if the response is to be controlled. He must choose the targets, the timing of the attacks, and the weapons to be used and those to be held in reserve (p. 269).

Controlling Assumptions

The survival of American society during a thermonuclear war is the vital national objective. Massive retaliation is not the answer to limited threats. We can survive a thermonuclear war only if it is limited and controlled, and this can occur only if the forces and supporting elements necessary to fight such a war have been purchased in advance.

Implications for War Termination

The question of war termination is not directly addressed, but the obvious implication is that our society must survive a war if termination is to be a meaningful objective and this probably can be accomplished only through a combination of the proper weapons and restraint.

Recommended Strategic Force Options

The United States should develop strategic capabilities necessary to fight a limited controlled war. This is linked with unilateral arms control measures.

Henry Kissinger, The Troubled Partnership: A Re-appraisal of the Atlantic Alliance (New York: McGraw Hill, 1965)

Summary (of Views of Limited Strategic War)

Technology is making counterforce strategy less and less feasible for the containment of the Soviet Union in Europe. The Soviets are in the process of obtaining a survivable second-strike capability (p. 109). The U.S. strategy of flexible response is having a negative effect on Europe. "If Secretary Nitze is correct in his view that the Soviets recoil before a high risk of nuclear war, then a limited attack in Europe is likely only if the American nuclear guarantee has lost some of its credibility" (p. 111).

The commitment of U.S. Polaris submarines to NATO is completely symbolic. It has no strategic significance. The Europeans want the appearance of nuclear support so that the Soviets will not bother them. They are not so much concerned about a veto as about the guarantee. They want to make our response automatic (pp. 115, 122, 162).

Counterforce strategy is not technically feasible and it "cannot be an optimum strategy for both sides" (p. 121). Hence a controlled counterforce campaign is unlikely.

Controlling Assumptions

Nations act in their own best interests. Suicidal strategies are not credible for this reason. Because of this there is a difference of interests between the United States and the rest of NATO. We want to preserve our options in time of crisis as a means of limiting damage to ourselves and this affects our preference for flexible response strategies. The European NATO nations want to maximize deterrence on an all-or-nothing basis.

Implications for War Termination

The subject of war termination is not addressed. Dr. Kissinger's views on the unfeasibility of counterforce strategic war suggest that he feels war termination short of exhaustion to be unlikely.

Recommended Strategic Force Options

Dr. Kissinger does not feel that a counterforce strategy is technically feasible. He suggests U.S. encouragement of the British and French nuclear weapons programs as an alternative strategy.

Clark C. Abt and Ithiel de Sola Pool, "The Constraint of Public Attitudes,"
Klauss Knorr and Thornton Reed, eds., Limited Strategic War (New York:
Frederick A. Praeger, 1962)

Summary

A strategy of limited strategic war must achieve the support of elite and public opinion to be successful. The problem might not be very acute at the spectrum of violence but if cities were subject to attack we have no real knowledge of how the public would react. Optimum behavior would be support and calm activity. Unacceptable behavior would be active public defiance or revolt. Limited strategic war (LSW) might be unpopular enough to doom the administration that initiated one politically. It may not be possible to even plan to use limited strategic retaliation (LSR) because of the effect it would have on the public (pp. 199-201).

There is no historical parallel to LSW. At Hiroshima and Nagasaki A-bombs were used by the United States, but the people who were bombed did not know what hit them. This may have affected the way they reacted to the attack. We must plan on the assumption no one will know public reaction in advance. But an LSW might be initiated despite this uncertainty. In such a case the National Command Authority should be protected from possible public attack. The whole question of limited strategic war and its effect on public opinion must be studied. How will the public react to counter-force or countervalue attacks or a combination of them? What are the chances for city evacuation? Should threats accompany demonstrations of force? What is the response time of public opinion? How would unfavorable public opinion be manifest? How will the national leadership react? What will be the opinion in areas not affected by attacks? What effect will it have on local military forces? How can the public interfere with the war effort? What will be the effect of success or failure on the public? What will be the effect on NATO and NATO nations? How will neutral publics react? Will there be any feedback effect? (pp. 201-206).

Four scenarios are discussed. The first has the Soviets taking Berlin with a force in East Germany so large that the West cannot resort to conventional war. The United States destroys a Russian city after a period of warning in an effort to achieve Soviet withdrawal. Soviets hit an airbase

near Dayton and Wichita, Kansas, after 24 hours' notice. This ends the nuclear phase of the exchange, but a massive buildup of conventional and tactical nuclear forces begins in the United States. In this case the public would at least have to not oppose U.S. actions in defense of Berlin. Would the public support the Administration's action during the warning period? The public in the American cities named by the Russians would probably violently oppose any U.S. LSR. A few hours' delay would probably have little effect but a few days' delay in threat implementation would probably have a very large effect. If communal shelters were available there might be much political activity in these. There would certainly be political opposition following the crisis. The Soviet public would be more permissive. Polarization of opinion between pacifists and the rightwing would be very strong in this country and in Europe. The European reaction might be even more extreme. There might be a rush toward neutrality in Europe. NATO would be disrupted. It is possible that popular morale might break in the USSR. Yet even this would not deter future Soviet aggression because of their ideology. If NATO broke up or showed a tendency toward this, the Soviets might decide on a second round to finish the job (pp. 207-219).

Victory in a limited strategic war will probably go to the side which has the greatest readiness to continue the war. The outcome of a single exchange, however, could be an accident and not an irreversible trend. The great problem for the United States is that calculations of the kind that are necessary for fighting an LSW are not easy for Americans to make (pp. 220-221).

In the second scenario the Soviets blockade Berlin and the West responds with a conventional attack. This attack is successful because of a revolt in East Germany and Soviet problems with China in the Far East. The Soviets then threaten LSR to stop the allied drive. The Soviets then launch four weapons of 100-to-500 Kts yield at logistics targets in Western Europe. We reply with a negating counter-logistics attack on Eastern Europe. Many of our allies press for limited attacks on the Soviet Union. Public opinion will probably support the offensive but there will be a mixed reaction to nuclear use. It will increase polarization in the West. There may even be organized sabotage in Western Europe, but its effects will not be

decisive. Many NATO nations would want strikes on the Soviet Union yet if the use of nuclear weapons were even determined by majority vote they probably would not be used. This is a good argument for retaining an independent U.S. tactical nuclear capability. If the Soviets resorted to some sort of escalation the consequences of this exchange would be great on future public opinion. The best result would be a serious interest in arms control. The worst would be Soviet confidence that they could safely push around the West (pp. 222-229).

In another scenario the East German regime cuts the supply line to Berlin. The United States demands Soviet intervention and threatens an LSR if it does not. SAC is put on alert and intelligence information on Soviet weakness is released. The United States then launches a very limited demonstrative attack (nonlethal), and the Soviets back down. The effect of this encourages polarization. Liberals in the West would interpret Soviet weakness as peace-lovingness, and the right would call for use of this strategy offensively. There might be considerable postwar troubles for the Soviets in Eastern Europe. Polarization of public opinion might be very strong in Europe and might disrupt NATO. West might lose despite having "won" the conflict (pp. 230-234).

In the fourth scenario, there is a rebellion in Poland being brutally put down by the Soviets. After success of using LSR in Germany, the United States hints about its use in Poland. Soviet exposes this "imperialistic plot" and the United States, under pressure, denounces claim as false. World attention is distracted from Poland and the NATO alliance is disrupted as a result (pp. 235-237).

The conclusions of this paper are that we simply do not know what the effect of nuclear attacks will be on public opinion but they are likely to cause polarization that will weaken the West. No serious opposition to their use during the war is likely but there will be considerable postwar problems. Enemy exploitation of Western vulnerability may follow. We will probably be at a considerable disadvantage in bargaining. LSW does not seem to be a good alternative to local conventional capabilities but it may be forced upon us. The only alternatives to LSW may be worse (pp. 238-240).

Controlling Assumptions

The effects of nuclear attacks on public opinion cannot be judged. It is likely that riots or worse would result only in target areas. The public would not interfere with the war effort but the reaction would probably be postwar polarization of public opinion and disruption of the NATO alliance despite any success or failure of this strategy. It is assumed that in the event of war the Western Governments would not take forceful steps to crush dissent.

Implications for War Termination

We do not know enough about public opinion to use the threat of nuclear attack to influence public opinion towards demanding termination of the conflict. A domestic postwar reaction to any nuclear war would be polarization. If the Soviets saw the NATO alliance disrupted by one such conflict they might be tempted to use it again.

Recommended Strategic Force Options

The authors make no specific recommendations on strategic forces. They recommend the study of limited strategic war and its effects on public opinion. Limited strategic war, they believe, is not a viable alternative to conventional capabilities in Europe.

Arthur Lee Burns, "The Problem of Alliances," in Klauss Knorr and Thornton Reed, eds., Limited Strategic War (New York: Frederick A. Praeger, 1962)

Summary

Both of the two major alliance systems that exist today have super-powers heading them. Both have semiindependent and dependent partners. A completely dependent partner would have to acquiesce to a strategy of limited strategic war (LSW), while a semiindependent partner would have the option of rejecting it. The semiindependent partner would probably cooperate to the extent that he believed this strategy would deter an attack upon him. An LSW strategy waged to avenge or defend him would have to be aimed at the defeat of the enemy or at least heavy damage if he were to have an interest in supporting it. He would probably accept lesser strike objectives to defend his own lesser interests (pp. 164-165).

An alternative to a strategy of LSW would be to proliferate nuclear weapons in a controlled fashion. This could involve a two-key system in which the ally would be given the key in the event of crisis or attack. The cost to the United States in waging an LSW would be high. Attacks on Soviet satellites would not have the same effect on the Soviets as attacks on U.S. allies would have on the United States. The members of an alliance are always threatened by the possibilities of agreements among the major partners against their interests. Nuclear sharing may be one way out of this problem (pp. 165-166).

Most versions of LSW are two-person models. Yet, three-person models are also possible. If a war is undertaken in defense of an ally then three persons are involved. Alliances have internal differences and different perceptions of the enemy. The differences in the amount of punishment absorbed will certainly affect attitudes. Traditionally the major ally has always borne the brunt of the punishment. In LSW this may be reversed. The enemy can present the alliance problems to which a unified position is just not possible. In the context of an alliance, limited strategic war cannot be considered the worst of all evils but in the view of the number destroyed it certainly can (pp. 167-169).

If China got an invulnerable deterrent force, would we defend Australia? If we have a significant advantage in counterforce and damage limiting capabilities, we may be more willing to defend an ally. In an era of partially vulnerable forces, LSW might be an attractive alternative for some allies to large conventional forces. Yet totalitarian states probably have an advantage in this type of war. Gross counterpopulation attacks are likely to be deterred by even a small residual capability. Only partial CF attacks would be possible. LSW offers the West little that could be used to defend Berlin (pp. 171-178).

Semiindependent allies might like the spasm-response option better. They may doubt command and control will hold up in an LSW. The publics of allied nations will not accept being made sitting ducks to nuclear attack. A major threshold is crossed when nuclear weapons are used. Partially vulnerable forces may encourage the emergence of Nth country nuclear capabilities (p. 178).

This era is likely to be relatively short. Allies are not likely to object to various types of exchanges if they are not threatened. The chief ally would have to make it unprofitable for the enemy to attack his allies. Nuclear sharing is the most obvious way to do this. This may be the only way to hold the alliance together, especially in the era of partially vulnerable forces when attacks on the enemy ally may be the safest to launch. Our most powerful allies probably prefer a general war--limited war strategy rather than LSW (pp. 185-187).

An allied force can trigger a war but its trigger capability is reduced as both sides become invulnerable. We can transfer packaged deterrents or help an ally achieve one. Sharing in some forms is an alternative to LSW. As retaliatory capabilities become more stable an ally is likely to have less faith in his chief ally's willingness to initiate a nuclear war. The best package would be silos and submarines. We might even trade ICBM sites in the United States for IRBM sites in the ally's country. This could delay the emergence of the Russian deterrent as well. A collusive CF strategy with our allies is possible (p. 186).

The United States would only launch an LSW under extreme circumstances. The threat of an ally retaliating would be more credible. If allies don't have nuclear capabilities the threat of LSW tactics might break up the alliance. The threat of U.S. attack on Soviet allies is not effective and is immoral. LSW might be one alternative alliance defense strategy but we should not depend on it. Once the Soviets have a secure second-strike capability we cannot rationally start a war to avenge an ally. Independent forces fractionalize an alliance. Hence nuclear sharing is probably the best alternative (pp. 195-196).

Alliances can probably survive these tendencies because of their age and cultural lag. LSW strategy need not disrupt an alliance. But LSW is easier for a totalitarian empire. Nuclear sharing is more likely to deter attack. Some forms of LSW will disrupt alliances (pp. 197-198).

Controlling Assumptions

The national interests of allies will determine their interest or objection to a limited strategic war strategy. Because of the tremendous destruction involved even in a limited nuclear exchange, most nations will desire a strategy that reduces the chance that nuclear weapons will be used except for their own defense. No nation wants to be dragged into a nuclear war to support the national interests of another. This reduces the feasibility of any form of extended deterrence strategy.

Implications for War Termination

Attacks on alliance junior partners or threats of such attacks may be an effective means of breakup of an alliance. This fact may have significant implications for termination, especially for the Soviet Union. The West may be very vulnerable to this form of attack. A high degree of coordination is necessary if a limited strategic war strategy is to become a reality. Without coordination a limited strategic war cannot be fought.

Recommended Strategic Force Options

No specific strategic force options are recommended although a recommendation is made to study various alternatives to limited strategic

war. The author tends to look favorably on nuclear sharing. One suggested form of sharing would be to trade IRBM bases in Europe for ICBM bases in the United States. This would give the United States a first-strike capability and our allies a deterrent.

Klauss Knorr, "Limited Strategic War," in Klauss Knorr and Thornton Reed, eds., Limited Strategic War (New York: Frederick A. Praeger, 1962)

Summary

In a limited strategic war (LSW), belligerents exchange nuclear strikes and threats of strikes. The purpose is primarily to act on national will rather than the military capabilities of the enemy. It is primarily a test of resolve. Strikes are designed to precipitate bargaining rather than defeating the enemy militarily (pp. 3-4).

For the indefinite future a major war is possible. It could be a general war or a tactical nuclear war. Spasm general war could take the form of furious countervalue or counterforce attacks. Controlled Counterforce (CF) wars may also be possible. If these are conducted on a small scale the central objective of the CF exchange could be the enemy's resolve (pp. 4-5).

The form an LSW would take would depend on the military capabilities of both sides, their resolve, and their strategies. LSW is possible. The authors of this volume do not advocate it as a strategy but believe it deserves study. The early American superiority in nuclear weapons encouraged thought along the lines of massive retaliation. Limited strategic war was ignored for a long time. Leo Szillard was the first to suggest it when he proposed announcing a price list for Soviet aggression. Since then it has been more seriously studied by scholars. Herman Kahn has studied large-scale limited strategic operations while others have studied smaller scale wars (pp. 5-9).

The feasibility and desirability of LSW depend on the setting and on the capabilities of military systems. It could be unstable and potentially very destructive. The relative military capabilities of the opponents are crucial. The conventional military balance may also be important. The worth of tactical nuclear weapons is debatable (pp. 10-11).

If both sides were vulnerable to CF attacks, the use of LSW tactics would be very dangerous. If the defender was vulnerable and the attack not vulnerable, it would be very dangerous for the defender to initiate LSW. If the defender was invulnerable and the attacker vulnerable, it is very

likely that limited strategic attacks would settle the war quickly and very unlikely that it would have occurred in the first place. Mutual invulnerability is the most stable condition for the conduct of a limited strategic war. LSW would become very important if both sides became invulnerable (pp. 11-13).

At very low levels LSW would be a symbolic act similar to a shot across the bow. Attacks on interdiction targets, conventional force bases, ships, selected industrial targets, and even some strategic military bases are possible. The intensity of the attacks is very important. There is a basic discontinuity in attacks on homelands and attacks outside homelands. It is possible that LSW would be very slow, somewhat like the last phase of the Korean war. It is also possible that it might go very fast (pp. 14-16).

Bargaining requires communication and this problem must be studied. Discontinuities are important as casus belli and as bargaining areas. LSW can have several purposes: demonstration of resolve; inflicting pain; and reducing the enemy's military capabilities. It could also interdict supply lines for a local war (pp. 16-17).

Once a LSW begins we are in a new unfamiliar world. Escalation is possible. It could be immediate. LSW is likely to have an extraordinary psychological impact. But there is also a chance that violent escalation will be avoided. If both sides are invulnerable the chance of this is less. The risks are not to be taken lightly (pp. 18-19).

We can't have unconditional surrender as an objective in an LSW. We must make it easy for the other side to surrender or accept defeat. Even the appearance of defeat is to be avoided. It may be very difficult to identify the winner in an LSW. Concessions, at least the appearance of concessions, should probably accompany demands. It is possible that LSW would lead to a radical revision of the International System. It might lead to crash disarmament--or an intensified arms race (pp. 20-21).

The military requirements for LSW are very severe at the lower end of the spectrum. The unauthorized use of strategic forces must be prevented. National command must be preserved if the war is to be terminated (p. 22).

Public attitudes on TN war and LSW are a great uncertainty. We do not know how the publics of the belligerents, allies, or neutrals will react although their reaction will probably be a constraint. The length of the war and the circumstances of its outbreak might be very important here (pp. 22-24).

Would national decisionmakers think rationally under the severe strain of an LSW? The level of tension is important but we have no reason to believe they will not. Will there be unauthorized military use of strategic weapons? Strategic command and control needs research. Command and control must be able to survive if the war is to be controlled and terminated. Since most wars are fought on the basis of prewar planning we must plan for LSW (pp. 24-25).

How will our allies react to LSW? They would like to be defended by a massive strategic CF threat, but this is probably not feasible any more. They are certainly not eager to procure limited war forces. The threat against a Soviet ally has no value for the United States. The Soviets, on the other hand, might threaten and bargain with our allies. Nuclear sharing and independent forces are alternatives to LSW. European nations might seek refuge in neutrality. But these are probably not acceptable alternatives. The world of LSW may be strange but it may be the best of bad alternatives (pp. 25-31).

Controlling Assumptions

Nuclear war in the future is possible. No one can predict what form it would take. Decisionmakers may conduct a limited strategic war on a rational basis because they fear the consequences of an uncontrolled exchange. The military balance--including the relative survivability of both forces--combined with resolve will determine the outcome of a limited strategic war because unconditional surrender is impossible here. Stability at the upper levels of warfare encourages risk taking at the lower levels--hence limited strategic war may be possible.

Implications for War Termination

To terminate an LSW we need prewar planning for limited strategic war, survivable command and control facilities, precautions against unauthorized use of strategic weapons, and bargaining with the enemy. Our strategic forces must have a high degree of survivability and it is preferable that strategic forces on both sides be invulnerable. We must not demand unconditional surrender or indeed attempt to force the enemy into making concessions that appear to be a defeat. We must offer some concessions or at least the appearance of concessions.

Recommended Strategic Force Options

We must study the problems of limited strategic war and the public reaction to a limited strategic war. Survivable command and control and strategic forces must be procured. Precautions must be taken against the unauthorized use of strategic forces. Extremely cautious deliberation must precede any decision to initiate a limited strategic war.

Morton A. Kaplan, "Limited Retaliation as a Bargaining Process," in Klauss Knorr and Thornton Reed, eds., Limited Strategic War (New York: Frederick A. Praeger, 1962)

Summary

Chances for bargaining in limited strategic war (LSW) are greater than is commonly assumed. Bargaining will probably survive repeated strikes and threats. LSW is probably most likely when both sides have secure retaliatory capabilities. Under these circumstances they must come to some sort of agreement on the limitation of war or be destroyed if war occurs. The West can bolster itself by maintaining a good counterforce capability, but if it does not it must consider the LSW option (pp. 142-143).

Never in the past has a situation existed where two countries could simultaneously destroy each other. Irrationality and stubbornness in an LSW could be of great value. A nuclear Hitler would be an awesome threat. Bargaining in LSW involves signaling one's values to the enemy--telling him one is willing to sacrifice much to obtain them. Limited strategic retaliation (LSR) is mainly a political act. One can signal one is willing to pay a certain price for something by escalating the attacks (pp. 144-146).

Limited strategic strikes must have an acceptable and if possible a universal rationale. There must be no fear on the part of the enemy that if he gives in on this issue he will be faced with a whole set of similar demands. We must appeal to the enemy's reason. In the nuclear age it is more difficult to start a war than it was in the 19th century, so our actions must be more threatening if they are to have any effect (p. 147).

If forces on both sides are invulnerable there is little chance of a large-scale response to LSR. The costs and risks of massive retaliation are too great. LSR will probably be recognized as a continuation of the bargaining process. Conventional war responses may be more dangerous than LSR because their relatively low level of violence and safety may encourage greater political demands which in turn may escalate the war into an all-out nuclear exchange. In the nuclear age we must have clear political standards for settling disputes. They do not exist today (pp. 148-149).

The United States essentially believes that aid can be extended only to legitimate governments while the Soviets believe it can be extended to revolutionary groups. Yet the Soviets too have an interest in legitimacy--in Eastern Europe, for example. If we take only actions that are legitimate under our theory, the Russians may eventually come around to adopting it in a war or crisis. The outcome of events may be determined by legitimacy because both sides have to depend on the reasonableness of their opponent to limit the war (pp. 149-150).

Some types of quasi-military measures to upset the status quo require no response. The importance of an area must be considered before deciding on any response. We need a firm legitimate cause before we can use nuclear weapons. If one side backs down without cause it sets the precedent and makes itself vulnerable to further demands. We must define the issues in such a way as to allow us to deter the Russians (pp. 150-154).

If the Russians threaten all-out responses to LSR, we are deterred from doing so. Yet we can break down this deterrence by a series of very small attacks which clearly do not require an all-out response. In a conflict we should try to escalate to a level which puts us at an advantage and puts the Russians at a disadvantage (pp. 156-157).

If the stakes are not too high and deterrents are secure, LSW is likely to resemble a sparring match. "If statesmen are at least minimally rational, the chief dangers arising from the strategy will stem from mistaken expectation rather than from any inherent irrationalities of the process." The more understood the requirements of LSW are, the safer it will become. Signs of weakness may draw increased retaliatory blows from the enemy (pp. 157-158).

LSR forces both sides to think in common terms and common interests. The earlier in the conflict LSR starts the better. If one side has made gains in a conventional war it might resist relinquishing them as a result of the LSW. The loser in a conventional war might overcommit himself. Russian nuclear action is more likely, for example, if the satellites are in revolt (pp. 158-159).

Properly applied, LSR is not incompatible with the security of both sides. The strategy is optimal because it seeks to appeal to the reason of both sides. Conventional war, on the other hand, encourages policies that minimize the chances of rational adjustment (p. 159).

If one side has the advantage in strategic forces that will permit it to win, even at a great price, it will probably have to be given some concession in an LSW. Uncommitted states can have considerable leverage in LSW (pp. 160-161).

LSW will probably be resorted to in certain situations irrespective of the doctrine of both sides. The more we know about it the more the chances will be that it can be controlled. It will probably occur several times in the future but it will not be a frequent occurrence. Nuclear powers will usually be very careful and back away from confrontations (pp. 161-162).

Controlling Assumptions

Nuclear war can occur and as long as mutual deterrent capabilities exist it is in the interest of both sides to keep them limited. There is probably enough rationality around so that LSW can be kept limited. Much of the conflict in a limited strategic war will be over the rules of the game. Legitimacy will be of high importance in determining the outcome.

Implications for War Termination

Both sides must be rational if damage is to be limited in a nuclear conflict and the war terminated. We should take only action that can be derived from a legitimate theory of how we see the world. We should not show weakness because this encourages escalation. We should make the enemy see that his concessions in one area will not be used to demand concessions in another area. Limited nuclear retaliation is more useful than conventional warfare because it tends to moderate political demands which can continue the war. There is probably a very high chance that limited strategic war can be terminated short of general war even if we assume a very limited degree of rationality on both sides.

Herbert D. Benington, "Command and Control For Selective Response,"
in Klauss Knorr and Thornton Reed, eds., Limited Strategic War
(New York: Frederick A. Praeger, 1962).

Summary

An effective strategic capability means an ability to operate forces according to plan. A new emphasis on command and control has emerged in recent years. It is now both feasible and desirable to provide a capability for selective response (pp. 117-118).

Command and control connects operational forces and surveillance systems with commanders. Command and control (C&C) can be made uncertain, ambiguous, and inconsistent or it can be delayed and disrupted by enemy action. The idea that thermonuclear (TN) war is unthinkable is responsible for the lack of interest in C&C until recent times (pp. 119-120).

In the missile age we face new problems of C&C. We are faced with a compression of time and a mass of data. Computers to some extent may simplify the problem (pp. 121-122).

There are two basic strategies for general war: spasm warfare and controlled warfare. There are different kinds of spasm war and they require different C&C capabilities: spasm first strike; spasm second strike-countervalue; and spasm second strike damage limiting. For selective response another kind of C&C system is needed. It must be highly survivable and be combined with survivable forces. It must have warning and postattack reconnaissance capabilities tied into it. The forces it commands must be capable of destroying various types of targets. There must be political-military management of both the planning and the execution of attacks (pp. 124-126).

The only thing that is certain about TN is its high uncertainty. We need the ability to fight a controlled TN war. It is needed not because controlled TN war is the most likely form of TN war but because it is possible and we must have an option to use it. We must plan to control accidents and for the unforeseen. It is likely that no technological development of the 1960s will prevent the emergence of mutual deterrent

capabilities. TN exchanges are possible and because of mutual invulnerability limited exchanges may occur. It is possible to conceive of nuclear accidents, escalation from a European war, unexpected Soviet defensive capabilities, unsuccessful Soviet first strikes, etc., causing the United States to respond with limited strikes. Spasm responses cannot cope with these problems (pp. 127-130).

In such instances it might be advantageous for the United States to withhold forces for intrawar deterrence. It is argued that such a policy is one of weakness or that it reduces the effectiveness of deterrence or that it is provocative. There is some truth to these charges but there are also counterarguments. If we harden and disperse our forces on submarines we will not be very vulnerable to a surprise attack, and the delay in using our surviving forces will not be very important. Moreover, it ignores the problem of the credibility of a spasm response. Selective response is not the best or only response but we should not tie our hands when we can have options. Such a capability requires time to build, and hence we should decide to procure one right now. President Kennedy stated that it is our national policy (pp. 131-132).

For selective response we need a national-level command authority. The men who man this must be very competent and have broad access to information on the long-term threat and our strategic options. They must receive Presidential guidance in war planning. We require a chain of command and control sites of high survivability and an established succession list. The system must be constantly exercised. A link between operation and support R&D DOD organizations must be established to assure that we get the best equipment for selective response options (pp. 134-135).

Each national command and control center must be staffed with very able men who know about our national strategy and goals and can take over in the event of an emergency. They must be familiar with the entire problem of TN warfare. It might be desirable to make provision for a spasm response (with ample safeguards to prevent accidental war) in case all national command centers were destroyed. We should announce this in advance to give the Russians an incentive to avoid attacking the national command system (pp. 133-136).

The central command units if they have battle management functions might increase the effectiveness of our forces but this would also make them good targets. We should have continuous capabilities for intelligence gathering. This is needed to allow the centralized selection of a few strategic choices (p. 137).

One of the most important jobs of the national command systems would be "the provision of plans, and capabilities for negotiations, termination, and inspection." How this can be accomplished needs research, as does the possible use of limited strategic operations in intense crisis when all other techniques have failed (pp. 137-138).

Limited strategic operations will cause great tension, superalerts, and hair-trigger postures. It is necessary that subordinate commanders have a great deal of faith in their national leaders. There is a danger of preemption if the Soviets do not have faith in the effectiveness of our national command authority and its capability to control our forces (pp. 138-139).

We must anticipate the various strains the system would be under during a war and correct any weaknesses that are present. It is not clear what direction the development of strategic weapons on both sides will go in during the next decade, but the case for limited strategic war as a possibility certainly exists. We must be able to meet it (pp. 140-141).

Controlling Assumptions

TN war in the next decade is a possibility, and controlled or limited TN war is also possible. We must be prepared to meet this kind of crisis. The technology now exists with which to fight a limited controlled strategic war. Command and control requirements vary greatly between different types of TN wars.

Implications for War Termination

For a TN war to be terminated short of exhaustion of strategic weapons, the national command authority must survive and provisions must have been made in advance for the conduct of limited strategic operations and for war termination. The war termination problem requires much additional study. It might be possible to deter attacks on our command and control system by threatening to launch spasm attacks if such attacks are made.

Recommended Strategic Force Options

The United States should procure a capability for limited strategic war in the form of a survivable force of strategic weapons capable of being used selectively and a survivable command and control system on the national level. We must study the problems of wartime command and control and the problem of war termination. Our postattack intelligence system must have adequate capabilities to allow decisionmakers to plan strategy rationally. We should also study the circumstances under which a limited strategic attack would be launched.

Herman Kahn, "Some Comments on Controlled War," in Klauss Knorr and Thornton Reed, eds., Limited Strategic War (New York: Frederick A. Praeger, 1962).

Summary

Both the United States and the Soviet Union are on a course that entails serious risks of thermonuclear war. Thus both have a moral and political obligation to study the ways in which deterrence can fail. Such a study might prevent the loss on each side of the one or two hundred million fatalities such a war could mean (pp. 33-34).

There are five feasible target strategies: counter value; counterforce plus counter value; counterforce; counterforce plus avoidance; and counterforce plus bonus. Only the last three are rational. In a situation of mutual overkill there are five ways in which nuclear power can be exploited: threats of war; exploiting ban-the-bomb movements; nuclear show of force; limited nuclear attacks; and limited general war (pp. 34-37).

Residual fear of war will always exist. Ban-the-bomb movements can be exploited against one's enemy. A nuclear show of force like a high-altitude burst can be conducted. Demonstrative nuclear attacks might be used to reverse a fait accompli. Limited general war might be resorted to in reply to an invasion using conventional or tactical nuclear capability (pp. 38-41).

Using nuclear forces in this situation brings danger of escalation especially if one side launches a two-for-one reprisal. The invader is unlikely to let the defender get away with this. There is the problem of subjective evaluations of cities. Yet limited strategic war is feasible. Critics compare the situation with that of peacetime not wartime. It may be bizarre and destructive but it is not as bizarre or destructive as general war would be. It may be possible to take out valuable but unemotional targets like gaseous diffusion plants, dams, isolated military bases, etc. It is even possible that such a crisis would end in a détente. More probably it will result in an arms race. A drastic change in the international order may occur including world government. A small number of blocs may dominate the postwar world. The current system is unlikely to

last out this century. If many nuclear attacks or reprisals are made it is likely that in one situation they will get out of hand (pp. 41-45).

If one side could destroy 20 percent of the other population in a second strike, the only incentive the attacker would have would be to launch a limited strategic attack. It would still be taking an awful chance even if it could inflict much more than 20 percent fatalities. The weaker side might react emotionally or stupidly. It is most likely he would not attack. If the stronger side conducts a low-level counterforce attack, he takes greater risks. He can now lose all his cities. If it costs more than one missile to destroy a missile, the weaker side has little incentive to attack counterforce because he will exhaust more of his own missiles than he destroys of his enemy's. Civil defense could make a controlled counterforce attack more likely but reduce its destructiveness. It would be less likely to escalate. Prolonged war would not favor the stronger side in a missiles-for-cities war. City evacuation could be an important factor but even the loss of 20 evacuated cities might be an adequate deterrent to a first strike by the stronger. There are also uncertainties involved. The most dangerous situation would be one in which the stronger side had evacuation capability while the weaker did not (pp. 47-50).

In a one-for-one missile exchange ratio situation, there would be tremendous pressure for arms competition. In a two-for-one exchange ratio, both sides would probably have an overkill capability for a first strike. Deterrence would be very unstable. Both will likely be trigger happy, but both still likely to prefer peace to war. Because the peace is unstable both are likely to be cautious (p. 53).

A two-to-one advantage in assured destruction capability is unlikely to have much effect on a controlled war. The stronger side may even back down. The side that struck first would have a bargaining advantage but not very much of one. A small survivable force on both sides and large unsurvivable capabilities may encourage launching a limited strategic operation (pp. 54-55).

A finite deterrence force may have simpler command and control facilities. A counterforce capability requires complicated command and control. Mutual counterforce capabilities are not as unstable as is

sometimes feared. Counterforce implies some limit on the arms race because it is linked to the size of the enemy force. Finite deterrence strategies may encourage nuclear proliferation. Both sides in a mutual counterforce situation are likely to have adequate deterrents for most situations (pp. 54-60).

Despite all calculations a war still might occur. It is necessary to reduce damage if it does. None of the finite deterrent strategies can do this. It seems desirable to have a credible alternative to peace. A decisionmaker cannot be certain that a controlled war will work but he cannot be certain that it will not work. A finite deterrence strategy is not adequate and it may disrupt the NATO alliance.

Controlling Assumptions

We live in a dangerous world in which both sides have an obligation to limit the damage that will result if war occurs. Even in an overkill situation nuclear weapons can be exploited for political leverage. We can never be sure what kind of wars are possible or infeasible. Hence we must keep our options open. Fear of war may be very great but this fear can be exploited by an aggressor.

Strategies like finite deterrence that depend on noncredible responses tend to encourage nuclear proliferation. Nuclear proliferation can be dangerous.

Implications for War Termination

Kahn believes that a two-to-one superiority in inflictible fatalities will be of little value in a controlled war situation. Two-for-one replies tend to encourage escalation. When punishment is equally distributed there is a better chance of war termination by political settlement. A two-to-one retaliation will only encourage settlement if there is agreement upon which side is the stronger. Fear of escalation will be one of the major factors in a political settlement.

Recommended Strategic Force Options

Kahn makes no specific recommendation on strategic force options but he does beleive we should maintain and develop counterforce capabilities along with civil defense so we can have a credible alternative to peace.

T. C. Schelling, "Comments," in Klauss Knorr and Thornton Reed, eds.,
Limited Strategic War (New York: Frederick A. Praeger, 1962).

Summary

Limited war has been conceived traditionally as a local conflict not using strategic weapons. This is an arbitrary definition. The authors of this volume suggest that this definition may not be adequate. Limited strategic war (LSW), strange and unrealistic as it may be to contemplate, may be possible. General nuclear war is also strange and unrealistic to contemplate. "Unfamiliar" is probably a more accurate description for LSW. Other forms of war are not more real but just more familiar. Yet strangeness does not provide any form of immunity for us from this type of war. We are living in a strange world (pp. 241-343).

Actual use of violence is usually not as clear as theory would suggest. Yet analysis is still worthwhile. One fights a limited strategic war to intimidate the enemy government or head of state. One does this by hurting the enemy and implying more is to come. Resolve can be displayed by hurting yourself as well. Attacks can be aimed at population to threaten the government directly or indirectly. Disorganizing the population hampers the government. Revolts are also possible. A Government can especially be affected by terrorism directed at the part of the population it is responsive to. The threat of selective nuclear bombing of Russia and China was implicit in many of the discussions of the late '40s and early '50s but then the fear of escalation became dominant (pp. 244-246).

Today many believe the middle ground of LSW involves showing weakness or encourages risk taking. The concept is closely linked to tactical nuclear warfare. The strategy, however, has been with us all along and the Soviets may use it someday. Offensive use of LSW may also be possible. It may or may not be possible to fight an LSW but the idea of limited war only linked to the battlefield is arbitrary and narrow. The study of LSW can help remind us that limited war can also be strategic in its ramifications. The change from the battlefield to LSW is a change of tactics not objectives (pp. 246-248).

The dangers of general war are greater the higher you go on the violence spectrum. We do not know how populations will react to nuclear attack. Raising the risk of general war is part of the strategy of LSW. Limited wars have local as well as strategic political consequences. Most of the factors involved in local wars will also be involved in LSW. But there is probably less advantage in the initiation of this kind of war, at least if stability is high in terms of mutual retaliatory capabilities. The more stable this situation is, the less dangerous LSW becomes. It is hard to see why either side will escalate into general war. The greater the instability the less the act needed to start general war. In an unstable strategic environment it might not be possible to wage limited strategic war. Yet even in this situation the fear of a small act starting a war might be used as a threat. We can't inflict unbearable pain unless the balance is stable (pp. 249-254).

Limited reprisals involve a war of nerve, resolve, and risk taking. This type of war is not confined to nuclear weapons. Through the use of unconventional delivery techniques it could be a poor man's kind of war (p. 252).

It is good to think about limited strategic war but we should not take our theories that seriously. They could be very wrong. The idea of warning enemy cities might be unrealistic. It could be a reflection of our penchant for talking rather than doing. Many scenarios of limited strategic war have a ritualistic character. Like most strategies it would be more impetuous and confused in its purposes and its effects. It may be more rational than general war but only in a limited sense. It is good to slow down war and induce reflection and control, but this does not mean there is a logical way to conduct a war of limited reprisals, or that in a crisis one will know what to do next. Both sides can still slowly bleed each other to death. It may require great luck as well as skill to terminate it. There is no guarantee that the more rational will come off on top. We can never determine in advance what situations we will face. There is a limit to the safety and security we can achieve from it. We may even have too much unrealistic thinking on the subject. Any rational leader can probably invent the concept in five minutes of thought during a crisis.

The theorists can only try to see that preparations do not become too inflexible. The required information for quick decisionmaking must be obtained. There must be coordination and advance planning. We need flexibility and adaptability in planning and weapons systems (pp. 254-258).

Controlling Assumptions

The threat and use of force and violence is and always has been an integral part of the international system. The nuclear age has not changed this. The unfamiliarity of a type of warfare should not blind us to its possibility. The goals and objectives of all forms of warfare are political. Our failure to study and understand a form of warfare provides no protection against it being used against us. Yet we should never take our theories too seriously because they may always have been unrealistic. Uncertainty is inherent in the nuclear age.

Implications for War Termination

Termination of a limited strategic war may be largely a matter of luck despite all our efforts to theorize about it. Rationality is no assurance of winning or even necessarily of value in a limited strategic war. It is possible to conceive of real or feigned irrationality being a considerable advantage in a nuclear exchange. Limited strategic war is a war of nerve, resolve, risk taking, and intimidation. The most rational side may not be the side that comes off the best in this type of war. Indeed the most humane side may be the first to break under the strain of this kind of war.

Recommended Strategic Force Options

We must study the problems of limited strategic war but we should not take our theories too seriously. We should develop the needed intelligence gathering and evaluation systems that would allow us to act rationally in limited strategic exchange. Flexibility must be introduced into the strategic planning process or we will have no options in time of crisis. Our weapons systems must have the flexibility required to give us a maximum number of options in the event of war.

Thornton Reed, "Limited Strategic War and Tactical Nuclear War," in
Klauss Knorr and Thornton Reed, eds., Limited Strategic War
(New York: Frederick A. Praeger, 1962).

Summary

Limited strategic warfare has been a blind spot in military thinking. All strategists agree that our strategic forces should be made invulnerable but there is a debate over the desirability of counterforce weapons. Much of this debate will be decided by the extent to which the Soviets harden or protect their strategic forces. Protected forces make the balance of terror more stable but it opens up the possibility of a limited strategic war. Limited strategic war is less dangerous and catastrophic than all-out general war, but can it be a substitute for conventional forces? (pp. 67-69).

The basic question in tactical nuclear war is how forces will be deployed and used. Most current planning for tactical nuclear war is extrapolation for World War II and this can be dangerous. The decline in our nuclear monopoly on the strategic level resulted in our exaggeration of the role of tactical nuclear weapons. Yet NATO has more ground force than the Soviet Union and there is a great discontinuity between conventional and tactical nuclear forces. We would do well to put more money into research on conventional weapons (pp. 70-71).

The difference between nuclear and conventional weapons is a difference in kind, not in degree. The basic feeling that they are different in part makes them different. Nuclear weapons may be built of lower yield than the greatest conventional bombs but they have weapons effects that no conventional bomb can produce. Moreover, the efficiency of nuclear weapons increases with size while that of conventional weapons decreases. It is an advantage to put your conventional explosives into small-yield packages but because of critical mass considerations it is more efficient to design your nuclear weapons into high-yield packages. Tactical nuclear warfare could be limited geographically but the area it would be limited to would be devastated. The Russians might just have this as their objective of the attack--massive destruction in the area defended and disruption of the NATO alliance.

Tactical nuclear war will have a built-in escalation mechanism. Because of the fog of battle and the lack of precise location of targets, there will be pressure to use higher yield weapons. Thus there is a real firebreak between tactical nuclear weapons and conventional weapons (p. 76).

In conventional warfare, inflicting punishment on the enemy is a byproduct of occupying territory. In tactical nuclear combat, the element of punishment is supreme. One can fight a limited and controlled tactical nuclear war but there will be a considerable disadvantage to doing so. The side that exercises the least control is likely to come out on top (pp. 81-83).

When punishment is evenly distributed there is a better chance for settlement. The natural focus for an agreement is to keep it equal. Two-for-one retaliation requires a mutual agreement on one side's dominant position. The fear that the process will get out of hand is a motive for settlement. The winner is more likely to measure his gains by the punishment he has received than by a comparison of relative costs. A strategy of nuclear punishment can compensate for conventional inferiority but only if the defender is more motivated. Limited strategic reprisals are no substitute for land forces for NATO. Their usefulness depends on a strong conventional defense. Strategic forces can be used to attack targets in the enemy's home country supporting the attack. Would the Soviets respect the rule of equal damage or escalate? Might spiral into general war. We put more value on Western Europe and Eastern Europe than the Soviets do. A nuclear war in Eastern Europe would destroy the sympathy that exists there for the West. The West cannot morally do this (pp. 86-95).

Limited strategic reprisals are simpler than limited tactical nuclear war. They are easier to coordinate. They are more controllable; decisions are taken by the highest authority. Weapons can be placed at sea or in sparsely populated areas. A reprisal can have great symbolic value as a rejection of the rules put forth by the other side.

It violates the rules of the game that the adversary wants to play. Yet there is a limited range of attacks to which limited strategic retaliation is appropriate. Might use a strategic weapon to reject the rules of a tactical nuclear war. Tactical nuclear war could be deterred by weapons placed outside the battlefield--submarines, and carriers or missile-firing ships (pp. 94-111).

Controlling Assumptions

There is a firebreak between tactical nuclear and conventional forces. This firebreak is very real. Purely rational considerations will govern a limited strategic war--at least to a much larger extent than in tactical atomic war. The emotional factor of strategic war will have less escalatory potential than the "fog" of tactical nuclear war. Strategic forces are most useful for attacking the logistics capability of the enemy because there is less chance for escalation into general war from these types of attacks. Limited strategic war is simpler than tactical nuclear war.

Implications for War Termination

There is a better chance for settlement of a limited strategic war if punishment is evenly distributed. The natural focus for an agreement ending such a war is to keep it equal. Two-for-one retaliation requires an agreement on which side is the stronger. A strategy of nuclear punishment can compensate for conventional inferiority only when the defender has greater willpower than the attacker. Limited strategic attacks on the logistics system of the attacker might persuade him to terminate the war by making continuation of his attack impossible. Limited strategic reprisals may be an important means of communicating to the enemy that one has rejected the rules of the game he is playing.

Recommended Strategic Force Options

The United States should develop advanced conventional defense systems. Tactical nuclear weapons should be withdrawn from Europe and placed outside the battlefield area, possibly on submarines. No specific recommendations on U.S. strategic force options are made.

Morton Halperin, Limited War in the Nuclear Age (New York: John Wiley and Sons, Inc., 1966).

Summary (of Views of Limited Strategic War)

The most likely limitation on strategic war is limitation on targets--counterforce and limited counterforce attacks. Attack options are: pure city, counter city and counterforce; straight counterforce; counterforce and limited city avoidance; and counterforce and full city avoidance. Qualitative restraints can also be introduced--attacks on lower value strategic targets (oilfields, staging bases, missile test ranges, etc.). It is not clear that pure city strategy eliminates the danger of preemptive attack. It may actually do the reverse. The Soviets do not fear U.S. attack but might feel more pressure to preempt if U.S. attacks were directed against cities. It is not clear whether a counterforce or a counter-value strategy more reduces the chance of preemptive action. The greatest danger of preemptive action is when both sides are vulnerable to first strike. When one side has secure second-strike capability there is little reason for preemptive attack by either side. Chance of central war is not high but Soviets might be willing to risk one if they felt it necessary to the survival of their regime (pp. 95-99).

Once deterrence fails, neither side is interested per se in destroying the other. The major motive for restraint is the desire to save one's own population. Both sides may have an incentive toward city avoidance. If one does not want to fight the war to the bitter end, one does not attack the enemy Government. City destruction may be used as demonstration of resolve at some point during the war. In short wars, internal or external political pressure is not likely to have much effect, but the Soviets might use limited counter city attacks to bring pressure to bear on Western governments (pp. 100-101).

In limited strategic war, command and control and communications are vital. Strategic forces must be used to carry out strategic strikes in a limited manner--they must be equipped for this purpose. They must be positioned away from population centers. Existing war plans must take possibility of limited strikes into account (pp. 102-103).

Limited strategic war might result from slow expansion from a local war. In this case there may be the maximum chance of limitation. The reason for the strategic attacks would be clear and there exists a ready-made war termination condition. If no local war is underway, the chances for termination may be reduced. Statements of limited objectives may help. Pre-war discussions can help keep it limited (pp. 103-104).

Strategic forces for a no-cities war must be under tight control, survivable, and the ability of the launch part of the force must be provided for. A no-cities force does not imply an endless arms race as some critics charge. Fallout shelters could help to keep the war limited by limiting the damage (pp. 105-106).

The United States should fight a strategic war in a manner that would allow the Soviets to respond in a restrained fashion irrespective of how the war started. Even if the Soviets are in an inferior position and have attacked the possibility of limited strategic war in advance, they may still fight a limited strategic war. Limited strategic war may even be in their favor if they have inferior strategic capability. They may be able to do more damage to the United States and Western Europe than we can to Russia in a limited strategic war. If the Soviets got larger forces, controlled war would still be in the interests of both sides. It is in the U.S. interest to avoid striking Soviet cities even if the Soviets struck first. There will even then be dangerous targets in the USSR for our strategic forces to attack (pp. 107-109).

There is no certainty central war can be limited. We must assume that cities will be attacked at some time in the war so intra-war deterrence must be practiced. U.S. options should have as much flexibility as possible. Every effort should be made to limit strategic war (p. 110).

Counterforce strategy is compatible with arms control:

In most discussions of the problem it is assumed that an arms-control policy is compatible only with what has come to be called stabilized deterrence. Arms control, it is argued,

is only possible if the United States develops a small strategic force designed simply to deter a Soviet strike by threatening countercity retaliation. Regardless of whether an arms-control policy could be based on such a strategy, it should be clear that arms control is in no sense incompatible with a controlled no-cities strategy (p. 110).

Arms-control agreements can rule out counter-city attacks. They would not guarantee that cities would not be attacked but such agreements would be deterrents to an attack.

Use of strategic forces through limited retaliation in limited war demands a willingness to escalate. Such strategies may seem bizarre but might not seem so in crisis. With capacity for ground defense and strategic retaliation the United States has several options. Should emphasize strategic capability where no doubt exists over U.S. commitment, and ground capability where it does (pp. 116-125).

Controlling Assumptions

Nuclear war can occur and we must be prepared to fight it in a manner that protects our national interests--that is, limit damage to ourselves. It is impossible to say whether or not it is possible to fight a limited nuclear war, but intellectually it is possible to differentiate between strategies based on the target system attacked. Cities are higher value targets than military forces. Wars are limited to the extent that cities are not attacked.

Implications for War Termination

We must limit and announce our war objective if we want to increase the chances of terminating a central war short of disaster. The linkage of central war to a local war and the gradual escalation from local war to central war may make termination more feasible because there would be a clear linkage between the strategic strikes and the local war. Limiting the amount of destruction done to both sides will facilitate termination. A city avoidance treaty or informal agreement might help. If we are to fight and terminate a limited strategic war, we must procure forces that can do so.

Recommended Strategic Force Options

The United States should adopt and announce a limited counterforce strategy. We must build survivable strategic forces and command and control facilities. In fighting a limited strategic war we must do nothing that would reduce the incentive of the Soviet Union to continue to exercise restraints. A treaty or informal agreement prohibiting attacks on urban centers would be desirable.

Edward Teller, "The Nuclear Race and the Problem of Controls," Procedures of the Asilomar National Strategy Seminar (25-30 April 1960).

Summary

Disarmament is a desirable objective but it cannot be achieved without an open world (pp. Teller 1, 6). Banning nuclear testing or any form of R&D is impossible and undesirable. Nuclear testing is needed to perfect tactical atomic and strategic weapons (p. Teller 3). We need discriminating low-yield tactical nuclear weapons. This would prevent the concentrations of troops necessary to exploit a breakthrough and would increase the effectiveness of local citizen resistance. More advanced strategic weapons would allow us to obtain smaller and cheaper strategic deterrent systems. Thus our deterrent could be made more survivable (Teller 3).

The concept of overkill is simplistic and ignores the difference between a first and second strike situation. We need a second strike force and a limited nuclear war capability rather than a capability for massive retaliation. Massive retaliation is immoral. We must obey the biblical injunction of no more than an eye for an eye. We must try "to do as little damage as possible and be as patient as possible; under no circumstances will we feel justified to unleash unlimited slaughter." Since the idea of massive retaliation goes against the American grain, it is an impractical policy (p. Teller 2).

Some argue that limited war is not possible. "The Russians reply, 'No war can stay limited once nuclear weapons are used.' What is the logic of that? If they want all-out war, they can have all-out war at any time. Right now they can attack us. If there is limited war, if they have engaged in limited aggression, and we clearly declare that we will not extend the area or the aim of the conflict beyond its necessary limitations, which we announce, then the only reason for the expansion of the war beyond its original area and original aims will be the desire of the Russians for a bigger conflict. And what we know about Russian tactics indicates that they will try to extend the area of conflict at precisely the time when they find us weak in our defense, not when we demonstrate that we are indeed determined to resist. I believe that their

statement that any nuclear war will necessarily become all-out nuclear war is in principle similar to a statement of massive retaliation on their part" (Teller 4). If we have a second-strike force they will not attack us. They have the virtue of patience.

Controlling Assumptions

Technological advance is inevitable. We need an ability to fight local wars and an ability to deter strategic nuclear war by a second-strike capability. Advanced weapons will make both tasks easier and cheaper. The threat of massive uncontrolled attacks is immoral and we cannot use it. We must exploit those areas of advanced technology that improve our security while continuing to work for an open world--the only world in which disarmament is possible.

Implications for War Termination

Dr. Teller does not specifically address the question of war termination but, as to the question of escalation, Dr. Teller argues that as long as our goals are limited, appropriate to the provocation, and announced in advance together with the military limitations we will uphold, there will be no reason for the Soviets to escalate the war. As long as we have a retaliatory capability they have no reason to go to the strategic level.

Recommended Strategic Force Options

Dr. Teller recommends that we develop a secure second-strike force and advocates the continued development and testing of nuclear weapons as a means of doing this. He also advocates the development of discriminating tactical atomic weapons. He argues against U.S. adoption of a strategic policy of massive retaliation.

Summary

As long as we have strategic systems it makes no sense for them not to have the best counterforce capability we can give them (p. 2). Soviet missiles are the most logical targets from a purely military point of view--especially so because of their large warhead yields. "The prudent decision-maker in this environment must wish for something other than the ability to threaten the utter destruction of perhaps hundreds of millions of people (which in addition, is no defense against accidental launch" (p. 3). If we didn't have accuracy, destroying Chinese missiles might require a massive launch producing much fallout (p. 4).

Controlling Assumptions

Nuclear war is not likely but it may occur. If it does the only logical targets are military targets which can hurt us. We might not be willing to launch a massive disarming attack on China but we might launch a limited attack with high-accuracy RVs. Military targets are the only targets we can morally hit.

Implications for War Termination

None except possibly that it might be easier to end a war if collateral damage remains low.

Recommended Strategic Force Options

Maximize the capability of our strategic forces for counterforce attacks by improving their accuracy. Deploy a limited ABM.

Summary

The Middle Marginalists (those in the center of the spectrum of opinion on the war-peace issue, i.e., those who equally fear the possibility of TN war and Communist aggression) believe in a high degree of control over military operations but differ on the feasibility of limited strategic war. "Those who put the greatest relative value on United States-Soviet stability, who have the greatest doubts about the feasibility of an American war-fighting capability and who possess the greatest confidence in non-strategic alternatives for the protection of Europe, tend to emphasize the arms control aspects of thermonuclear deterrence; they stress forces and tactics designed to deter war over those with a substantial ability to fight a war and they deemphasize the possibility of having to strike first. Those who are relatively more concerned with Europe, who have greater faith in our ability to fight a thermonuclear war, and who doubt that conventional alternatives for protecting Europe will be adopted (even if physically possible) tend to emphasize a less self-restrained form of deterrence: they want to deter attack on ourselves but they want to be able to fight well and win if deterrence fails, and they want to deter Soviet attack on Europe by being able to threaten credibly and if need be execute a first strike against the Soviet Union. They argue that by deterring Soviet aggression, this strategy will make thermonuclear war less likely over the long run" (p. 240). Those who want a full counterforce capability are close to the anti-Communist marginalists (those who fear Communist aggression more than war and demand limited action be taken against the sources of Russian power).

Controlling Assumptions

Positions on the spectrum of views concerning the issues relating to war and peace can be classified in relation to two criteria: their views concerning the danger of war, and their views concerning the danger of Communist aggression. One can also classify them in relation to their views as to the changes needed in U.S. foreign policy: systematists who demand major changes, and marginalists who desire minor changes. By

combining these criteria the author derives five classifications of opinions: Antiwar systematists, antiwar marginalists, middle marginalists, anti-Communist marginalists, and anti-Communist systematists. Both antiwar groups fear war more than they do Communist aggression. Both anti-Communist groups fear Communist aggression more than they fear war. The middle marginalists fear both about equally.

Implications for War Termination

None.

Recommended Strategic Force Options

None.

Col. Ralph L. Giddings, Jr., "Battle Management for Strategic Weapons Systems," U.S. Naval Institute Proceedings (January 1971).

Summary

The problems of battle management have often been ignored as in the recent discussion of the deployment of the Nike-X/SABMIS combination of defensive systems. In this case we have the problem of communicating information on what warheads had been destroyed from the SABMIS vessels to the Nike-X defense (pp. 50-51).

Strategic planners must be very conservative. They must assign a large number of weapons to each target to assure a high probability of target destruction in the event of war. Hence we have the idea of "overkill" (pp. 50-51). This problem can be reduced by dynamic real time battle management capabilities. To do this we need sensors, communications equipment, the ability to evaluate the received data, and the ability to relocate weapons targeting. The weapons themselves must be capable of rapid response. Current U.S. plans are fixed with few exceptions. "Whereas flexibility in strategic planning is the watchword today, the execution of these plans appears to be totally inflexible since no capability for real time battle management exists at the strategic level" (p. 52). With the coming of strategic arms control, battle management becomes even more important. It could be the only means we have "to assure a high damage expectancy" (p. 52). We lack such a capability today because of interservice rivalry over roles and missions and civilian reluctance to give a military officer the ability to influence strategic operations (p. 52).

Controlling Assumptions

Strategic nuclear warfare is no different from tactical warfare in the need to have the ability to change battle plans in relation to operational developments. We must have such a capability even if it somewhat reduces the degree of civilian control of strategic operations. (In effect the military can be trusted to control strategic nuclear weapons. Battle management is more important than extreme precautions against use against unauthorized targets.)

Implications for War Termination

The issue of war termination is not specifically addressed, but one implication of the author's thesis would be that the ability to respond flexibly to changing strategic situations would be a useful capability to have and might contribute to terminating a war short of mutual destruction. If we cannot adjust to wartime conditions, we probably cannot terminate the war on any remotely favorable basis. Our only option will be spasm response or capitulation.

Recommended Strategic Force Options

The United States should develop a capability for real time intelligence gathering and evaluation and battle management. We need the ability to rapidly retarget our strategic forces.

(D. G. Hoag, "Ballistic Missile Guidance," in B. T. Feld, T. Greenwood, and S. Weinberg, eds., Impact of New Technology on the Arms Race (Cambridge, Mass.: MIT Press, 1971).

Summary

Accuracies as great as 30 meters or less in CEP will be possible at intercontinental ranges in the foreseeable future. This type of technological improvement is inevitable and cannot be restrained by agreement. No means of national verification could be completely successful in discovering the testing of high accuracy systems (pp. 100-102).

Launching ballistic missiles against cities is not a rational policy. Such a strategy, moreover, is simply not credible. Cities provide no immediate threat to our security. It is far better to save our resources for use against the enemy military capability. Even if the threat has been removed or is unknown, it is still better to spare cities for the potential value as targets in latter bargaining. The threat of destroying these cities can be a deterrent to further aggression (pp. 101).

The present deterrent stalemate is based on the threat of city destruction. It is effective because you cannot count off rational behavior on the part of your opponent. The threat of massive population fatalities is helpful in maintaining the peace but is not useful if the weapons are actually launched.

High-accuracy RVs can be justified on the grounds of damage-limiting counterforce response strikes. Each side would and should attempt to neutralize the military capability of the enemy. Collateral damage can be eliminated by low-yield high-accuracy weapons. These weapons would not necessarily be less effective in urban-industrial destruction (pp. 103-104).

When small accurate ballistic missile warheads exist, discrete targets can be engaged without killing civilians. The possibility of limited or slowly escalating thermonuclear war might also be considered.

What should be our response to a single missile or a single salvo of missiles? Would this be great enough provocation to destroy an enemy city? The enemy may gamble on this. If the launch was accidental he does not deserve the ultimate punishment. Small accurate warheads could provide the basis for a selective and credible response. "The pre-announced surgical removal of a few enemy military or industrial installations with the explicit and obvious intent to minimize loss of life might be a clear and emphatic message of your power and restraint. It could terminate the war" (p. 105).

If each side had a nontargetable deterrent force, high-accuracy guidance would not be destabilizing. If war begins, these missiles would allow a humane alternative to city destruction. It would give the military and political leaders more options to avoid the massive destruction of civilian population and more chances for war termination (p. 102).

Controlling Assumptions

Missile accuracy can be expected to improve, and nothing can be done about this. The control of technological advance by agreement is impossible. Attacks on military and economic targets are more humane than attacks on urban centers. The objective of the United States in a nuclear war should be to limit damage to ourselves. Punishing the enemy is secondary. Lack of credible response options encourages aggression.

Implications for War Termination

The ability to conduct a limited strategic war is a requirement to terminate it. The surgical removal of a few enemy military or industrial installations in the event of an attack would demonstrate both power and restraint. It could terminate the war.

Recommended Strategic Force Options

The United States should maintain a nontargetable force of Polaris missile submarines and develop high advanced small warheads of very low yield and high accuracy. In the event of a limited attack we should carry out a limited surgical response.

D. The Forward Strategists and Massive Deterrence Advocates

(General Nathan F. Twining, Neither Liberty Nor Safety--A Hard Look At U.S. Military Strategy (New York: Holt, Rinehart and Winston, 1966).

Summary (of views of General and Strategic War)

(What is limited war? The JCS have never agreed on a definition of limited war. The current discussions of limited war are unfortunate because they are a sign of weakness. They convey to the enemy a fear of general war. Individuals who are mainly involved in the limited war debate are: scientists with bad consciences; State Department doves; moralists of various types; political scientists; and soft liners of various shades (pp. 105-106). Limited war stands for the principle of weakness and opportunism while the United States stands for the principle of morality (pp. 102, 104). If we continue to spend billions of dollars for limited war capabilities, our international position will not improve at all--it will probably be hurt (p. 119). The commonly heard assertions that we do not have the capability of flexible response with our current military postures assume that limitations will be placed on our use of force. If the enemy knows that we will respond to an attack in a peripheral war by attacks on the enemy's logistics and there will be no sanctuary for those fighting by proxy, and that we will use any weapon that is required, he will certainly be deterred (p. 120).

Any war that stops short of annihilation of the enemy is a limited war. American limited war capability today is fantastically great (p. 120). Finite deterrence strategies have no flexibility for meeting problems. When faced with such a capability the enemy will know that it will never be used against him and he can push us to the wall (p. 91). Counterforce capability gives us political and military flexibility which can improve our diplomatic position (p. 92). With a finite deterrent capability, we cannot win. We can only increase the cost of victory to the enemy. The idea of technological stalemate is nonsense (p. 94).

Summary of Long Statement by Gen. Richard Richardson quoted in
Gen. Twining's book

Deterrence is a cold-war objective and as a goal it has no place in shaping the outcome of a war "except in a secondary and different context to deter the use of some weapon system on the expansion of small wars" (p. 97). There is a great difference between forces designed to deter and forces designed for a credible war-winning capability. Loss of cities alone does not win wars (p. 98). It is the surviving postwar military balance that determines the winner of a war. A small allied nuclear force would have a considerable ability to deter a war but would have no ability to fight or win one. War winning focuses on the military capabilities of the enemy (p. 100).

Minimum deterrence and other "stable deterrence" strategies are inadequate because they ignore the requirement to win wars. They also ignore the third-party criteria. "The primary, and only valid, objective is and remains to defend the country successfully in war" (p. 100).

We cannot gamble on a force structure concept that endangers our survival if a war occurs. Deterrence requirements cannot dominate military requirements. Minimum deterrence and all similar strategies gamble with the security of this nation.

Controlling Assumptions

Total war is the natural form of warfare. Discussion of limited war signals weakness to the enemy because it indicates an unwillingness to fight a total war. This weakness can be exploited by the enemy against us. Options are not desirable simply because they involve the use of lesser force or nonnuclear force to achieve an objective. Since strategic power has the potential of blocking the enemy at any level, it is a sign of weakness to desire to block him with lesser force.

Richardson

The purpose of military forces is to protect the enemy by destroying the military capabilities of the enemy in time of war. The concept of

deterrence is important, but deterrence requirements cannot be allowed to override war fighting and winning requirements. The main purpose of military capabilities is to win wars, not to deter them. The destruction of cities in the finite deterrence model will do nothing. It only increases the cost to the enemy in winning the war.

Implications for War Termination

The only way to terminate a war considered here is the destruction of the enemy's military capability by counterforce strikes against him. City avoidance is acceptable for the purposes of intra-war deterrence and since the city is not an important military target. Wars are terminated by defeating the military forces of the enemy forcing his surrender.

Recommended Strategic Force Options

The United States should maintain and expand our strategic nuclear superiority. Our strategic forces should be diversified and we should emphasize research and development. We should adopt a counterforce military doctrine and procure the necessary forces. If attacks on the enemy's homeland are needed to defeat him in a local war, we should attack his logistics capability in order to destroy his ability to make war. There should be no sanctuaries for his military forces in the event of war. The very discussion of the concept of limited war is a sign of weakness.

Gen. Curtis E. LeMay and Maj. Gen. Dale O. Smith, America is In Danger (New York: Funk and Wagnall, 1968).

Summary

Strategic or general wars are wars that potentially can destroy a nation. All wars with nations that cannot destroy the United States are limited wars. The best guarantee that wars will remain limited is limited capability on the part of the enemy (p. 152). The primary objective of the United States is to deter all kinds of war, especially general war. "The military base for successful deterrence is overall force superiority--that is, a capability to fight successfully at whatever level of intensity necessary to win our objectives" (p. 155). Counterforce strategy is the only rational plan for a general nuclear war (p. 155). If we have a disarming capability we can place a high cost on escalation. No nation can afford to lose all of its military capability (p. 155).

Limited wars are usually wars fought with conventional weapons but the Air Force believes the use of tactical nuclear weapons is possible (p. 122). NATO postulates a tactical nuclear war in Europe despite the wishes of the United States. It might be possible for a nuclear war to be fought in this fashion, but the chances are against it (p. 123). Even in World War Two strategic targets were hit. If the war were confined to Europe, the United States would have to take a very limited role. "Should we become deeply involved I cannot imagine how the United States and the Soviet Union could avoid hurling nuclear thunderbolts at each other" (p. 124). NATO should maintain a decisive nonnuclear tactical air capability (p. 125). The McNamara doctrine of the pause before the use of nuclear weapons "is one of the most idiotic to come out of the Pentagon third floor" (p. 127). It ignores the fact that "negotiations occur when pressure is applied, not when it slacks off" (p. 128). "The introduction of appropriate-sized nuclear weapons should insure an early termination of hostilities, reduce casualties among American and friendly forces and limit, not expand, the amount of economic disruption and destruction always associated with prolonged military campaigns" (p. 159).

The objective of limited war is to achieve our political aims, and the military effort must achieve the preconditions for a successful outcome at the conference table. We should not assure the enemy that the conflict will not take a certain form. All forces should be considered part of our basic national security posture, not compartmentalized into limited or strategic war forces. Advanced tactical nuclear weapons with high accuracy may allow us to considerably reduce collateral damage (pp. 156-157).

Escalation will always be of more concern to the weaker side on the strategic level (p. 162). The Communists will always be cautious when confronted with a combination of strategic superiority and a firm stand.

Controlling Assumptions

The purpose of military forces is to win a war at the lowest possible cost in terms of lives and property and in the shortest possible time. Strategic superiority is essential to achieve this. Our main objectives must be to deter general war and to defeat the enemy if it occurs. Limited nuclear war is possible but is probably not likely. The basis of general-war strategy should be to defeat the enemy's military capabilities. Forces should not be compartmentalized into strategic and general-purpose forces. Strategic forces are the most important because they deter the entire range of conflict.

Implications for War Termination

Nations negotiate when the pressure is being applied to them, not when it is reduced. We should always keep a certain amount of uncertainty in the mind of the enemy as to the form the conflict will take. Advanced tactical atomic weapons may terminate some forms of war at far less casualties than a long conventional war. Counterforce attacks can destroy the enemy's military forces and hence his ability to continue the war.

Recommended Strategic Force Options

The United States should maintain military and technological superiority, especially strategic superiority. We should procure advanced tactical nuclear weapons of low-yield, high-yield-to-weight ratios. We should base NATO strategy on an advanced tactical nonnuclear capability. Strategic warfare should be conducted along counterforce lines. When we fight a limited war we should do it with the timely application of force backed by strategic superiority. Our deterrence policy should maximize potential risk to the aggressor. We should have the most technically advanced weapons possible. The threatened destruction of the enemy military capability will always be an effective deterrence, especially to a Communist state.

(Gen. Thomas S. Power, Design for Survival (New York, 1965).

Summary (of Views on General and Limited War)

There will always be threats to the security of the United States. The most important threat that exists today is international Communism whose goal is the destruction of our system and world domination. The Soviets will attempt to achieve this without war but if they are unable to do this they will resort to war. They will never go to war, however, until they achieve strategic superiority.

We cannot depend on a minimum or finite deterrence policy because the Soviets have absorbed massive amounts of damage in the past and rebuilt. We cannot afford a maximum deterrent which would entail the harnessing of our entire economy to the military effort. Counterforce deterrence is inadequate because the United States would never start a general war and the Soviets would probably hit cities. Graduated deterrence, which stands between finite and counterforce deterrence, would attack both cities and military installations. Advocates of graduated deterrence consider the problem of limited war more pressing. They want to limit war to conventional conflicts. Flexible response calls for the ability to retaliate in kind. If the Soviets spare cities we will do the same. Another variation emphasizes damage-limiting capability (pp. 119-122).

None of these strategies are adequate. What we need is a "credible capability to military victory under any set of conditions and circumstances" (p. 126). If one side manages to retain residual military strength after the war, no matter how much damage is done, it will be the winner. This is the kind of victory we must achieve if we are to deter aggression. The Soviets would only begin a general nuclear war if they were confident they could win it. They believe it is possible to do so. Nuclear stalemate does not exist and hence we must preserve our strategic superiority. We must convince the Soviets that we have this capability (pp. 127-128).

Limited war is any localized conflict in which the Soviets support one side and we the other. "Limited war is not a clear-cut matter as general war in which all the military resources of the West would be pitted against all the military resources of the Communists" (p. 218). Our strategic deterrent has a major role to play in deterring limited war. The more we weaken it, the greater risks the Soviets will take. We should not become involved in a limited war unless we have a credible war winning deterrent (p. 221).

The threat of punishment is the major deterrent to limited war. Strategic airpower can be very effective in this. This does not mean that we do not need an Army, Navy, and tactical air force, but strategic power plays the major role. Nuclear weapons will eventually be used in limited war. We need low-yield clean weapons for tactical use. There will not be pressures for escalation in tactical nuclear war, especially if we have a war winning strategic capability. The most likely time a nuclear attack on us would come is not during a crisis or a limited war period because we are at maximum alert during a limited war or crisis.

Controlling Assumptions

Aggression is part of human nature. This will never change. There will always be national security threats to the United States. International Communism is inherently aggressive. Since strategic nuclear superiority is our best deterrent to all forms of aggression, weakening our deterrent by increasing conventional forces will make war more likely. General war is always total war. Indeed the "only issue at stake in a general war is our survival and our objective, therefore, must be total military victory" (p. 222).

Implications for War Termination

General nuclear war can only be terminated by military victory or defeat. The possibility of limited strategic war is not considered.

Recommended Strategic Force Options

The United States must maintain strategic nuclear superiority and make it obvious to any enemy. Our strategic forces must be capable of winning military victory in a general war. We need advanced missiles, bombers, and ABMs. We should develop a military space capability. The accuracy of our missiles should be improved. Advanced tactical atomic weapons for limited war should be developed.

III DETAILED REVIEW OF THE LITERATURE ON WAR TERMINATION

Clark Claus Abt, The Termination of General War (Unpublished Ph. D. Dissertation, MIT, January 1965).

Summary

In the termination of both World War I and II, the date of termination was far later than the date of military decision. In a nuclear war this could mean the needless slaughter of hundreds of millions of people. The study of war termination has important implications for deterring general war. It could enhance the credibility. A lack of knowledge about termination may inhibit desirable attacks. War aims are likely to change during the conflict and it should affect military strategy and tactics. The widely held short-war doctrine in the United States inhibits such a change. Even if the initial exchange is decisive, continuing operations may be required. The study of war termination may also eliminate spurious optimism about war outcomes (pp. 1-2).

War termination occurs when one nation loses the means or will to continue the conflict. Defeat can deny the means, but defeat is relative and nations continue to fight well after defeat is inevitable. In most general wars the outcome is seen far before the end. We may have to design weapons along a termination criteria. Termination of general war is in some ways simpler because much of the escalatory option has been closed. Termination can involve revolutions, coups, strategic bombing, invasions, occupation, pacification, and negotiations or various combinations of the above. The major factor in war termination is military defeat and political-military inducements to surrender. One must persuade the loser that his interests are best served by surrender. If the loser tries to terminate too early, he risks a military coup. If he acts too late, he will receive harsher terms. Thus termination is very time sensitive (pp. 2-3, 232-234).

The process of termination involves a test of strength, a struggle in the leadership, possibly a revolution, and then either exhaustion or negotiations. The variables determining the outcome are relative and absolute military capabilities, the standard of living, the unity of

purpose, the ideological intensity of the crisis, the coercive power of the Government, and the existence of channels of communication (pp. 234-235).

In the test of strength, unrealistic evaluations are possible. Military victory is necessary for termination but alone it will not terminate the war short of exhaustion of one side. In a nuclear war context, military victory would be victory in a CF exchange. But because of residual countervalue (CV) forces, such a victory does not entail complete loss of the war. Under the conditions of nuclear war domestic conflict may occur on both sides not just in the defeated side (pp. 240-241).

In World War I and II, termination was the result of a struggle between diehard, realist, and revolutionary factions. The diehards are usually the military. The realists are usually civilians who are interested in the best terms possible. Revolutionaries will end the war soonest but at the probable price of a civil war. Nuclear war may earnestly require a realistic government on both sides (pp. 241-242).

The techniques of communication involve radiobroadcasts, neutrals, intelligence contacts, and military actions. Winners will demand that the loser surrender and broadcast threats and ultimatums. The loser threatens to continue resistance and make the winner's victory more costly. The winner may show his good intentions by sparing civilians. He can put pressure on the loser by destroying his residual military capability. If the loser has substantial military capability, the winner may only ask for conditional surrender. The winner to terminate the conflict must increase his absolute and relative military strength while decreasing the fear in the defeated nation of the consequences of the defeat. If one destroys the enemy military capability, physical occupation may become attractive. Psychological warfare against the enemy population may be effective. Increasing internal pressures can cause a revolution. Military coups, on the other hand, are not successful in preventing the termination of a war (pp. 245-252).

Realist factions usually come from the upper and upper middle class while diehards come from the lower and lower middle class. Diehards usually have a very parochial and sometimes distorted view of the rest of the world (p. 253).

U.S. entry was the decisive factor in ending both World War I and II. Allies are important in any future war, and hence U.S. policy must project an image of U.S. restraint. We must engage in controlled counterforce (CF) wars. It might be desirable to declare that in a war with Russia we would care for Russian survivors. It could reduce the incentive for CV targeting (p. 258).

The loser has an interest in termination but he may decide to prolong the war for a while. First there must be a decision on who has won. The loser may pretend he has great residual capability for bargaining reasons. But he may finally believe his own propaganda, and this can prolong the war. Theoretically the loser can know before the winner knows what the true situation is and hence can sue for peace while he still can get good terms. He can get better terms by threatening POWs, civilian bombing, or fanatical continuation of the war. It is usually better for him to come to terms earlier. The loser may ruthlessly suppress all peace factions. An early surrender can cut losses on both sides. Hence the moralistic crusading mentality that is often connected to a war effort can needlessly prolong the war (pp. 260-264).

In a general nuclear war there is not likely to be time for the traditional political struggle to occur. Public opinion is unlikely to have a significant impact on the course of the war. The military outcome may be indecisive. It is possible that the United States could win the counterforce exchange but emerge with the most serious urban industrial damage, or the Soviets may occupy Europe. Hence there may be no clear military victor. Communications may be disrupted by the war. There will be less time for negotiations and bargaining. The defeated power may resort to countervalue attacks rather than accept a CF defeat. The issue may be decided emotionally. This phase could become a contest of suicides (pp. 272-275).

U.S. planners ignore the fact that a controlled war may be a long war. The Soviets see ground forces as very important, and we are not prepared for this kind of attack. If the United States believes in a short-war doctrine and the Soviets see some cities as legitimate military targets, the war may soon become a spasmodic exchange. If the Soviets invade Europe successfully and the United States sees this as intolerable, it might be impossible to terminate the war without an invasion of Europe and this might take years (pp. 275-278).

Even a 100-to-1 advantage in CF capability might not be adequate to prevent one side from having significant residual CV capability. In practice there will be uncertainties about the surviving balance of power. We need comprehensive postattack reconnaissance capability to avoid this type of situation (p. 279).

If a diehard regime is in power in the Soviet Union it may be necessary to physically destroy it, kill its leaders, or destroy its communications. Unconventional attacks might be useful in destroying individual leaders. We should keep the intellectual debate on nuclear war and war termination going on both internally and externally to prepare moderate leaders in the Soviet Union (pp. 281-282, 285).

To achieve an enemy surrender one must explain how it can be done convince the enemy his alternatives are all worse, and make it look honorable. In a nuclear war it might take the form of cease-hostilities collection of military personnel and equipment at specific points, disclosure of weapons stockpile locations, and supply of food and shelter by the victor to some part of the vanquished population (pp. 287-288).

Some common ground must exist about the postwar world if there is to be a settlement short of exhaustion. Even the most far-sighted leaders will have difficulty in terminating a general war. The military forces of the vanquished must be loyal to their government if surrender is to take place. If the enemy's command and control is destroyed, he cannot surrender (pp. 292-293).

Divergent attrition, revolts, changes in leadership, and possibly (but not likely) public opinion may cause war termination. The cost of a war might be between 30 and 300 million lives. In a general nuclear war the three phases of war termination are likely to go on simultaneously. Revolution may be possible if cities are not destroyed and the war is a long one (pp. 292-293).

To convince the Soviets they have lost, we must increase our ratio of strength. Yet by doing this we may not destroy all the enemy ability to inflict CV damage. It probably will not be possible to limit our damage to less than fifty million fatalities without civil defense and ABMs. Should we make a maximum effort to reduce the enemy residual capability even if it reduces the ratio of our superiority in the last phase of the war? We need poststrike reconnaissance to limit damage to ourselves and get a true picture of the military situation (pp. 294-295).

The strategy of CF attacks or CF attacks followed by CV is not adequate to terminate a war. We should plan on the destruction of the Soviet logistics system, communications, and power rather than counter city attacks. This would hamper a Soviet invasion of Europe. Military plants in rural areas would also be attacked to destroy the Soviet war-making capability, but those in cities would be spared to prevent collateral damage. Raw materials would also be the subject of attacks. It may be possible to break the Soviet Union and satellites into a series of non-self-supporting economic units. It will require thousands of low and low-intermediate yield weapons for this strategy, bombers to deliver them, survivable command and control, bomber refueling facilities, and reconnaissance capability. This strategy offers more hope of success than either invasion or CF. It will probably be much cheaper than either. There is more chance that this kind of war might be controlled than a CV exchange. It might reduce fatalities from hundreds of millions to tens of millions (pp. 300-303).

We will need good political intelligence about the enemy government in order to determine what tactic we should use against it. A Hitler type of government would have to be destroyed at all costs. A spasm CV

war might result from a wrong decision about the enemy government based on bad intelligence. Realist factions should be noted and helped into power by military operations. It might be possible to exploit the conflict between the Communist party and the Army (pp. 297, 304-305, 307-308).

We need a quick retarget capability for such a war. We have five basic strategies: CF avoidance, CF, CF and bonus, counter economy, and counter population. The response we choose should depend on the nature of the enemy attack. If command and control is destroyed, population attacks are likely to start very quickly. Our termination criteria should be a minimum of damage to the United States and even the enemy and a maximum of surviving relative military capability. The defeated nations CV capability cannot be ignored even if it has only a few dozen surviving missiles. One irony is, the better shape the winner is in after the CF exchange the less bargaining power he has because his cities are hostages (pp. 310-314).

The cost of surrender must be made commensurate to the cost of continuing. If large CV capabilities exist, a several-times-over CV capability has little value. If such a situation exists it is in the interest of the winner to offer good terms. A revolution can force war termination at any time but only the Soviets, the probable loser, are subject to much danger of revolt (pp. 315-319).

The Soviets can probably force a near stalemate outcome with their existing forces. Attempts to achieve a full CF capability are probably not worthwhile. Active defenses, general-purpose forces, and R&D are probably the best areas for defense money (pp. 320-323).

Controlling Assumptions

Historical parallels from World War I and II are assumed to be important for the study of general nuclear war termination and it is assumed that a general theory of war termination can be derived from the study of these four surrenders. It is assumed that war termination is important for general nuclear war, and the technology to decisively win such a war does not now exist.

Implications for War Termination

Some implications are almost self-evident--that a decisive military conflict will occur first, followed by a political struggle and either termination or exhaustion. The author is thinking solely about all-out general war. He ignores the possibility of limited strategic operations and their termination. The idea of counter-economic-logistics and military production final phase of the war may be valuable. But based on the study of these for surrenders the author thinks too much in terms of surrender rather than more likely general-war termination concepts. Even in the pre-nuclear age, most general wars were not terminated by surrender but by some form of limited negotiated settlement. This is probably even more applicable to the nuclear age. The author ignores the whole range of ad hoc or conditional cease-fires which might terminate a nuclear war. His concentration on World War I and II drives him to the conclusion that the greater the damage the harsher the peace terms one must demand. This is probably exactly the opposite of what would happen in a nuclear war. Up to a point, the greater the damage, the more pressure there is likely to be to settle it on a nonconditional basis.

Recommended Strategic Force Options

Because of likely technological development the United States probably should not invest great sums of money in attempts to achieve complete counterforce destroying capabilities and in building a heavy AEM. We should direct more money into conventional forces and research and development. Rather than fight a traditional counterforce and delayed countervalue exchange, we might direct our attacks at the Soviet conventional force capability, logistics, and arms production capability in an attempt to stop the Soviet ground advance and disrupt the Soviet economy and means of social control. To do this we need thousands of low and low-intermediate yield bombs and bombers to deliver them. To terminate a war we need a survivable command and control system, post-attack reconnaissance systems, and a quick retargeting capability. We should push the development of improved strategic defenses.

Thomas C. Schelling, Arms and Influence (New Haven: Yale University Press, 1966).

Summary

Limited strategic warfare has never been given very much intellectual consideration in the United States. There has been official silence on the subject. Much of the unthinkability of limited strategic war (LSW) comes from the fact that we do not think about it. If we can consider wars in which tens of millions are killed, why can't we consider wars in which tens of thousands are killed? (p. 178)

There are several types of LSWs: reprisals, coercive attacks, panic inducing attacks, etc. LSW may seem unrealistic now but it could look much different to a decisionmaker who is faced with the choice between massive retaliation and doing nothing (p. 180). Despite its limitations, LSW can be deadly. Two antagonists can bleed each other to death a drop at a time. There is no guarantee the more rational side will come out in better shape.

The reason for going after the military forces of an enemy is to destroy his ability to inflict damage on our cities and military forces. This makes sense whether or not the war can be limited. A completely successful counterforce campaign would make it unnecessary to deter enemy attack. A completely successful threat to destroy enemy cities will probably immobilize his weapons, but this is difficult to achieve. It makes sense for both sides to take counterforce wars seriously (p. 193). The weaker side will survive only at the sufferance of the stronger and thus has an incentive not to start an orgy of violence. The only way the weaker side can induce restraint is to show restraint. The Soviets, in the event of war, might practice massive retaliation but also they might not. The best argument against counterforce is its dubious technical feasibility in the middle 1960s.

Once a general war has begun, an all-out counter city campaign makes as much sense as a collision to preserve the right of way. General war even fought along counterforce lines is probably terrible enough to deter all but the most desperate enemy. Indeed his belief that the war could be controlled might deter a desperate gamble on preemption. "So

the alleged hard choice between keeping deterrence harsh as possible and making war, if it should occur, less harsh, may not be the dilemma it pretends to be" (p. 198).

A situation in which both sides can harm each other but not disarm each other may come into existence because of technological developments and force deployments. In such a situation there will come a point in a counterforce war in which the counterforce part of the campaign is over because one or both sides are running out of weapons or targets or both. It is remotely possible that both sides may completely disarm each other. A more probable development would be the initiation of a deadly city exchange (p. 198). Pressures on the weaker side to preempt would be very high. If the counterforce exchange was unpromising, one side might omit it altogether.

Bilateral violence of this type is unique in history. Traditional warfare is much different. In it, both sides inflict pain as fast as they can but they do not have great reserves of pain they can inflict. In nuclear war we do. We can inflict pain in any quantity we desire. No decisionmaker has ever faced a similar problem. In conventional war the side which wins is the one that can stand the violence longer. In nuclear war it will be the side that can most exploit the threat of total violence. Neither side gains by inflicting pain but inflicts it to show that more pain can come. Obstinacy might persuade an enemy to quit but displays of such will be quite suspect (pp. 201-202).

There is nothing automatic about one side escalating the war, but this is an important possibility. Appropriate strategies for nuclear warfare will be difficult to determine. Massive retaliation seems less unthinkable because it demands less thinking. It is more like an act of euthanasia while limited strategic attacks are more like torture. This may be the reason TN warfare has been so often called "mutual suicide." As bizarre as it may seem, a cities one-by-one strategy is more responsible than an all-out atomic fury. Both sides may stay alive. An all-or-nothing strategy might be credible if bomber delivered because it would at least give some time for negotiations, but even this may not work (pp. 202-203).

In nuclear warfare a two-to-one advantage in inflictible fatalities might not be a decisive advantage. There is no compelling reason to believe that one side will unconditionally surrender--or will not. If war ended dearly and both sides retained some weapons, the war would be inconclusive. Such wars would have to be ended by design. It would not simply run down. A cease-fire or a pause would have to be reached. This would involve a bargaining process. That last word might be more important than the first strike (p. 204). In the closing period of the war the outcome may well be determined but the worst damage is yet to be done. Even the most confident victor would have to induce his victim to exercise restraint (p. 205).

In a thermonuclear war the plans for termination would have to be made in advance. We cannot improvise as we do in a conventional war. It would not be possible to occupy the enemy or supervise a cease-fire unless plans had been made in advance. It is possible that nuclear powers may fight wars until all weapons are exhausted but it is more likely that they will hoard the last remaining weapons. There could be a pause between the counterforce exchange and the beginning of a city exchange. This and some other points may be natural termination points (p. 205).

There may be some technical problems to thermonuclear war termination. An enormous amount of damage can be inflicted in 20 minutes. There may be a real problem in stopping attacks and calling back manned systems. A decisive factor will probably be information. Bombers might give time for negotiations, especially when the urban attack phase had begun.

A cease-fire could be tacit or negotiated. It would have to be monitored. How far could subsequent negotiations move? Neither side would want to start the war again. An agreement ending the war would not have to be based on the status quo. Unconditional surrender is a quite simple formula and any peace settlement would have to be simple to be negotiated in a war environment. Sanctions or reprisals would have to be threatened against the violator of an agreement (pp. 209-210).

Once a settlement is reached, how well can it be communicated to strategic forces? Will the military remain loyal to their government? What would we do if there was an attack one hour after the cease-fire? Was it an accident or a deliberate test? Cease-fire terms could include the destruction of the strategic weapons of the enemy. A side may not cheat but may appear to do so. It is also possible that one side could cheat and not be detected. Improving our command and control is vital if we want to terminate a strategic war.

Should we destroy the enemy Government or attack his command and control? The answer to this depends on whether or not we believe it affects his military capabilities more than his ability to observe restraints. If we want a negotiated settlement, we must preserve the will of the enemy to survive. We must decide which is the most effective way of immobilizing his weapons. If we believe he will spasm, we should go after his weapons quickly. If we do not, we should exercise restraint. We can never know in advance which is better (pp. 212-213).

Allied nuclear forces might spoil restraint by launching a spasm attack. On the other hand, once our allies get Polaris, they may see their forces as a reserve which they could exploit in the last stages of a war in which the strategic forces of both the United States and the USSR had been drastically reduced.

A counterforce war may not be feasible but we must try it if we are forced into a strategic war. "To fight a purely destructive war is neither clean nor heroic, it is just purposeless" (p. 216). We must never close our eyes to the need for responsible decisions in a nuclear war. Cease-fire terms will involve bargaining. It might mean the recognition of one of several competing governments in the enemy nation. It could mean the destruction of the remaining strategic forces. The disposition of a theater war might be involved. On the other hand, such wars might be ignored so that the strategic war could be settled more quickly. The settlement could involve territorial changes, exchanges of POWs, occupation of some areas, destruction of some installations, or even the exchange of hostages. "We are dealing with a process that is inherently frantic, noisy, disruptive, in an environment of acute uncertainty, conducted

by human beings who have never experienced such a crisis before and on an extraordinarily demanding time schedule" (p. 220).

Controlling Assumptions

Limited strategic war may be possible. It may seem bizarre at first thought, but it is a far more rational exercise than a city exchange. Yet it is still a quite deadly exercise and very unpredictable. No decision-maker has ever faced problems like those we would face in a strategic exchange. Our main objective in such an exchange would be damage limitation rather than inflicting pain on the enemy. Pain is only inflicted to serve as a warning that more pain will be inflicted in the future if the enemy does not come to terms. The termination process will involve a form of bargaining that has never before taken place.

Implications for War Termination

Dr. Schelling believes that war termination in a limited strategic war is a very difficult and tricky process. Human beings have never experienced the type of pressure that they would face during a strategic nuclear war. Plans for termination must be made in advance if there is to be any chance to terminate the conflict short of total destruction. The time scale is too short for anything else.

Nuclear war termination agreements could involve the destruction of residual strategic forces, the status of a theater war, or territorial changes, or it could be a simple cease-fire. Bombers because of their relative slowness could be very important because they can be recalled and they give decisionmakers the opportunity to negotiate before the attacks are delivered.

We must decide in advance whether we want to preserve or destroy the enemy government and command and control system. This decision is very complicated. It is difficult to err on the safe side because we do not know which side this is. If we allow the enemy government and command and control to survive, we increase the effectiveness of his military forces. If we destroy the government, there may be no restraint on military

commands. Hence we must decide which is the most effective way of immobilizing his weapons: intrawar deterrence or military action.

Recommended Strategic Force Options

Dr. Schelling makes very few specific recommendations for strategic force posturing. He believes we should invest heavily in strategic force survivability and a survivable command and control system, but he does not advocate a counterforce doctrine or procurement of counterforce weapons. He is not sure if a counterforce strategy is technically feasible. His recommendations are essentially that we should think about the problem of limited strategic warfare and take the necessary actions to assure that we could use our strategic forces in this manner in the event of such a war.

Herman Kahn, William Pfaff, and Edmund Stillman, War Termination Issues and Concepts, HI-921/3-PR (Croton-On-Hudson, N.Y.: Hudson Institute, 1 June 1968).

Summary

There are six basic thermonuclear war threats that can be used both before and after the initiation of hostilities (p. 1). These include:

1. Large escalation or "eruption"
2. Nuclear talionic reprisals (or reciprocal reprisal)
3. Exemplary (and/or reprisal) attack
4. "Noblesse oblige" (or potlatch) response
5. Competition in bearing costs (or "pain")
6. Competition in risk-taking

Currently, thinking about thermonuclear war is unthinkable. This is very unfortunate because much of the tragedy in war occurs because problems connected with it are not thought out in advance. The world is likely to be a reasonably safe place for the next decade or two, but there is a chance that a thermonuclear (TN) war may occur before the end of this century. Part of the current relative safety is a result of actions taken by Governments that saw problems and took action to meet them. Today the debate exists on a much lower level. A very simplistic picture of thermonuclear war exists in the Office of the Secretary of Defense and the Pentagon. It involves the idea that war, through accident or miscalculation, would be an orgy of uncontrolled violence. This picture of total violence may be reasonably accurate but it also may be self-fulfilling expectation (pp. 40-43).

The public reaction to a thermonuclear war may be very hostile and the use of these weapons might cause an immediate change in the international system. A "never again" reaction may set in. Nuclear conflict may be won by the side that appears to be the most reckless. Fear will dominate calculations. But nuclear war may have some rational utilizations. It could be used to terminate a conventional war. Nuclear strikes might be used to induce the loser to accept an ad hoc cease-fire. Nuclear strikes might also result from a crisis eruption (pp. 40-45).

One of the most discussed techniques of waging limited nuclear war is talionic reprisals. It may be a nuclear peace-keeping device because it is a mechanism for bringing the war to an end. Tit-for-tat feuds have more often limited violence than escalated it. Exemplary and reprisal attacks are all talionic in nature, but not vice versa. Reprisals are a familiar concept in 19th century diplomacy and they have a built-in limiting device because they are supposed to be linked to an enemy act. Clandestine attacks are also possible. Another form of attack would be noblesse oblige or potlatch attacks. They may be related to a desire for future concessions, (pp 3-5).

TN war involves a competition in bearing pain or costs. The aim of limited attacks is to weaken morale or will. Both sides have large resources but they do not want to commit them because they fear the result. Competition may be in the form of bearing pain or risk taking. Fear of escalation may play a major role. Faked insanity can also be an effective tactic. There will always be residual fear of nuclear war no matter how stable the balance becomes. Each side does not know the effectiveness of the other's weapons. Even if mutual overkill existed by a factor of ten, nuclear threats could still be exploited for political leverage because of residual fear of spasm war. One side can increase fears of war, stage an accident, manipulate arms control movements, etc (pp. 8-17).

In limited nuclear war, tit-for-tat strikes are more likely than tit-tat-tit strikes. A nuclear fireworks display also might be very effective. Once conflict begins, it might be ended by an ad hoc cease-fire or a conditional cease-fire, or the war might continue. The situation is likely to be very emotional. There is likely to be a sense of pyrrhic victory or disastrous failure irrespective of the amount of damage. This is likely to put great pressure on decisionmakers. The risk of spasm war may seem overwhelming. In many situations, "stop the war" is likely to be the overwhelming motivation of both sides (pp. 3-5, 14, 40-44).

Terms for ending the war could vary greatly: the terms could be nonconditional cease-fire, or they could be conditional. It would

probably be ad hoc, simply because even simple cease-fires would be difficult to reach. An imbalance in military power may exist, but it may have little effect on the outcome of the negotiations. The worth of the political objectives of the war will sharply decline in relation to the costs of continuing the nuclear exchanges. Any pause will allow the mobilization of a protest movement. International protest may prevent the restarting of hostilities. The winning side has an interest in a conditional cease-fire. Pressure will mount internationally against the more reasonable side to end the conflict. The aggressor in a nuclear conflict even if he got his way could face a Cold War, rearmament, or nonmilitary reprisals. A cease-fire might be concluded on the nuclear level while the war continues on a conventional level. The winner in a conventional war can use a nuclear exchange to ratify his victory. If a cease-fire is the overriding goal of decisionmakers, it will be difficult to bargain. Battlelines at the time of a nuclear cease-fire might remain indefinitely. A side that disregards a cease-fire might lose very badly on the international political level. Another incentive for a cease-fire might be the fact that it was unclear if the winner could keep on winning if he continued the war. A threat of resuming a nuclear war after a pause may not be credible. Conventional forces even in a nuclear crisis may provide the only forces that can change the outcome. Nuclear weapons might simply arrest the action of a conventional war. A drastic recalculation of objectives is likely to take place in the event of nuclear escalation (pp. 42-27).

In the event of deescalation of a nuclear conflict, the higher the intensity of the conflict, the greater the chance it will not reescalate again. Leaders of both sides may feel that they must do away with the causes of nuclear conflict. Extreme international pressure may occur against any kind of risk taking (pp. 47-49).

Both the conventional and nuclear phases of a war are independent of each other and may be won or lost. Victory at one level may be purchased by defeat at another. Russia, for example, might control a part of Europe despite a large scale of nuclear destruction. There may be changes of

Government in a nuclear war. The winner may be generous. Restoration of the status quo ante will always look like the most salient terms (pp. 48-49).

In any nuclear war the "irrational" side always has the advantage. Irrationality or callousness may allow him to win a cheap victory. It is also possible that both sides may achieve their minimum war aims or both sides may fail. Great damage may or may not occur. There are three real outcomes: physical, political, and psychological. The overall success or failure of a nation in a war depends on all three. They can be won or lost independently. The outcome must also be compared with what might have happened without the war (pp. 49-50).

"We cannot talk intelligently about many aspects of war termination without postulating a cause of war, an outbreak scenario..." (p. V). The aggressor in a TN war even if he gets his way and retains his gains will not have a completely free ride. A war of reprisals can take place only in an environment of parity. If one force is invulnerable, neither side may risk a first strike. The "overkill" idea gives backing to the idea that asymmetries in force postures are not important, but they are. Even in the TN age the capability to ultimately defeat the enemy even at great costs, or even a theory of how to do so, may be of great value. Bargaining power can be created by threats of operations leading to military superiority. Raising the possibility of pre- or intrawar mobilization capability may be vital. Indeed "it may literally be possible for one side to defeat its opponent by destroying or degrading its military forces to the point where the stronger side can penetrate the opponent's defenses at will, and the converse does not hold. The stronger side could make highly asymmetrical threats of inflicting unacceptable casualties and damage on the opponent's retaliation" (p. 18). Improvised defenses both active and passive might become very important in such a conflict. Prewar preparation would help very much. Population evacuation might be very effective (pp. 17-18).

The stronger side might be willing to make concessions to the weaker side rather than carrying out the threat of mobilization because of its cost. Yet the belief alone that it has this capability may be important.

The belief that one can win at a high but acceptable cost may be a major bargaining advantage to the side which has the capability. This might come from active and passive defense, CF capabilities, or intrawar deterrence. Yet it might still be willing to make large concessions (pp. 18-19).

Advocates of pure deterrence believe it is futile or immoral to try to limit damage. Others believe deterrence is stronger if we have the ability to wage war. Deterrence-only advocates have no concern over limiting damage or terminating a war. War-fighting-capability advocates want to be able to survive and terminate a conflict. Intrawar deterrence, threats of escalation and nonescalatory reprisals are the techniques of warfighting and termination. One can exploit a variety of internal or external factors to bring pressure on the enemy. Both sides must distinguish between counterforce (CF) and countervalue (CV) and various types of CF attacks if the war is to remain limited. In a nuclear war situation, there is less political pressure and private cares on the part of decisionmakers. The problem of command and control becomes very important. Political leaders would probably rather see forces destroyed than used if they cannot be used flexibly. Plans can always be altered but at the price of decreased military efficiency. A controlled-response war involves forces controlled and tactics determined by the President. Flexibility and precision are the two most important criteria for the use of force. Constrained attacks are those in which collateral damage avoidance is maximized. The military prefer avoidance while politicians prefer constrained attacks because the limits here are absolute (pp. 19-22).

Constrained attacks are likely to be the pattern of many TN wars because the moral issues are strongest here. Only the largest attacks can significantly change the military balance, and they are not likely to be made. As long as decisive military considerations are not present, political limitations are likely to be very strong. A calculated war is one that puts even greater restrictions on the use of force. Each attack is closely considered and evaluated on a cost-effectiveness basis. Communications, negotiations, and bargaining are of vital importance.

Limiting damage is a main criterion. Intra-war deterrence is vital. A variety of tactics can be used: bargaining; slow motion and abatement tactics; mobilization; special attacks and messages; reducing or increasing the noise or uncertainty (pp. 22-23).

"In the nuclear age the most effective use of force clearly will often be to support a threat rather than to carry out the threat. The second most important effective employment of force is likely to be very partial and limited uses, with the balance of available forces withheld to serve as a deterrent and possible subsequent coercive or damage-limiting use" (p. 24). Communications can be used to coerce the enemy or to establish rules. They can clarify intentions and help intra-war deterrence. CF attacks can be very effective in bargaining, as punitive strikes and to make the opponent's attacks more difficult and yours more easy. Slow-motion attacks can be counter-value or protracted campaigns against hidden or mobile missiles. Active and passive defense may be critical in a slow-motion war. A prolonged war is not likely but it cannot be ruled out (pp. 24-26).

Threats can be against the enemy's values, his threat capabilities, or his strategic threat. Other aspects of the enemy's capability to threaten or resist threats are also important. If one side feels its forces or resolve will soon be threatened, it may be more willing to negotiate. Potential loss vs. gain calculations and beliefs about the enemy may be important. Emotions, strategies, tactics, and technical considerations may be vital. What the other side can deliver in a settlement and the credibility of its promises are important (pp. 26-27).

Situations that tend to favor an ad hoc cease-fire include: mutual shock at the effect of the war; vast amounts of civilian damage; the achievement of war objectives by one or both sides; an equitable balance of retaliatory damage; theory of victory or safety fails; the fact that it seems more feasible than a conditional cease-fire; the military or bargaining position of one side does not seem likely to improve; or other costs of the war become too great (pp. 53-99).

Mutual shock may occur at very low levels of nuclear destruction. It seems as likely to occur at very low levels as at high levels. Anger is likely to be swamped by fear. An unwillingness to accept further damage might offset military superiority. Low-level nuclear war may be more a test of will than of military capability. The structural stability of the governments involved may be very important. The stability of the Chinese and Russian Governments is less than ours (pp. 54-57).

In a slow-motion war, pressure is likely to arise both internally and from allies. Nuclear first-use may create a great international reaction. One possibility that has unpredictable consequences is the possibility that the outcome of a nuclear war might be much better than expected. But this eventuality is rather unlikely.

Nuclear attacks may cause political upheavals. Germany was a much more stable society in 1914 than the United States is today but it collapsed in World War I. It is an open question how U.S. leaders would react to large-scale destruction. Attacks on cities may be counterforce attacks by indirection--immobilizing the enemy's weapons by breaking his will. Chinese and Soviet leaders may be more willing to cut their losses than U.S. leaders (pp. 56-59).

One major problem in ending nuclear wars is that they are likely to be transcultural. Value systems differ. Surrender, for example, was a crime in Stalinist Russia in World War II. World War I destroyed the culture of the 19th century. A nuclear war might do the same. Totalitarian states may be better at it because of perseverance and decisiveness. Nuclear weapons may be difficult for a rational side to use because their use may demonstrate irrationality (p. 58).

Termination of a war by proportional attacks might be difficult to achieve. Will shock of a demonstration end the war? Cities are tied up with emotional values. If large targets are attacked the only distinction may be between spasm and less than spasm (pp. 62-64).

Failure of a victory strategy may end a war. Military failure would probably result in scaling down of political demands. Noblesse oblige may be satisfied, being a pretext to stop the war (pp. 64-65).

Even achieving an ad hoc cease-fire may be difficult--command and control of nuclear forces. Even a side with bargaining power might not choose to use it for this reason. The risks of negotiations may seem very large in comparison to possible gains (pp. 65-66).

Nuclear war outcomes should be studied more. There should be more emphasis on retrofit capabilities and on a mobilization base. The existence of such a base may be a major deterrent to attack. Pressures for preemption may be greater during a period of mobilization. In a crisis, Congress might authorize a trillion dollars for defense and this would dramatically change the military balance in three years if preparations were made in advance to effectively use these funds. Once we had begun such a mobilization the Soviets might feel compelled to buy us off. Mobilization can be thought of as a form of warfare. Once the mobilization is completed we could issue an ultimatum and there would be a good chance it would be accepted if its terms were reasonable (pp. 83-85).

Since the 1940s, nuclear strategy has been subject to much debate in the United States. In the 1950s, three service strategies developed. The Air Force advocated a Full First Strike capability. The Army advocated a deterrence plus insurance strategy--i.e., one of moderate counterforce capabilities that would be used in the event of a really massive Soviet attack on Europe. The Navy advocated a Mostly Finite Deterrence and Arms Control. McNamara adopted the basic Navy strategy and extended it to cover our allies.

The United States now has six basic general-war strategies to choose from. They include:

1. Mostly Finite Deterrence--A strategy of finite deterrence plus no unnecessary collateral damage from the enemy attack and an option for nuclear talionic reprisals.
2. Partial Damage Limiting--A strategy very close to Mostly Finite Deterrence but with more concern over the possibility of failure of deterrence. Great emphasis is placed on budget limitations and détente, but some facade of extended deterrence is maintained to make guarantees to allies more credible.

3. Defense Emphasis--A strategy which holds the deliberate use of civilians as hostages is immoral and unnecessary. Proliferation is held to be a danger to the Mutual Assured Destruction arms control concept. Arms control is believed to be easier when heavy defenses act as a hedge. The need for deterrence, it is argued, is based on the relative harm the enemy can do rather than any fixed finite number of fatalities.
4. Deterrence plus Insurance--A strategy that takes the failure of deterrence much more seriously. It is contended that we need a deterrent that will survive an intense crisis situation. War fighting, survival, and controlled response options are most important under this concept.
5. Expanded Deterrence--A more redundant form of deterrence plus insurance with greater emphasis on crisis capability, and this may include the capability for preventive war against a future Hitler. Mobilization in an emergency is emphasized.
6. Not Incredible First Strike Strategy--A strategy designed to underwrite guarantees to allies with a massive first strike capability with preventive war potential. It provides insurance against escalation (p. 29).

Many Europeans are concerned about a separation attack on Europe. Even when we were invulnerable in the late 1940s, we did not like the idea of automatic commitment. In an environment of strategic parity the American guarantee has an altered quality. The Soviets might deter what would be militarily an American first strike. In addition to the basic three types of deterrence (deterrence of direct attack, major provocation, and minor provocation) there is a fourth form of deterrence which exploits the six basic TN war threats. A formal declaration of war is also possible (pp. 32-22).

The McNamara administration smudged the difference between deterrence of direct attack and minor provocation. Emotional reactions make response to major provocation almost automatic, but it is wrong to weaken the theoretical distinctions. Since type II deterrence (extreme provocation) requires an active decision, it may fail. Any form of extended deterrence that requires carrying out a decision may fail for this reason. Such deterrence may be reinforced by explicit commitment. It may be rational to commit ourselves to an irrational action in the hope it will deter.

Committal strategies may prevent enemy calculations. The fact one is against spasm war makes rationality more likely. Yet the belief calculated war is possible reduces the deterrence of it. The current (1968) posture of the United States is between mostly finite and partial damage limiting. McNamara position that U.S. strategic forces will deter an attack on Europe is an example of the rationality of the irrational. Soviets might force Europe to surrender by producing a credible threat of large-scale destruction on a certain date. A situation can arise where rationality of the irrational threats can be used against irrational or ideological enemies. The group that has the greater resolve has an advantage (pp. 34-35).

Credibility, resolve, and clarity of intentions are involved. A smudging of theoretical concepts can sometimes work because of the uncertainty involved. Even a nation of shaky resolve can practice extended deterrence. There are many variables in the question of what is unacceptable damage. It is highly linked to the issues involved. There are five or six basic levels of deterrence capability:

1. Minimum--An uncertain capability to do any damage. Deterrence rests mainly on threshold and taboo.
2. Workable--A capability to threaten 1-100 million fatalities reliably and possibly up to 5 to 20 million with luck.
3. Adequate--A reliable retaliatory capability to kill 10 to 50 million and an unreliable threat to kill between 50 and 100 million.
4. Reliable threat--A capability to inflict 50 to 100 million fatalities with high reliability.
5. Approaching absolute--A reliable capability to inflict 100 to 200 million fatalities.
6. Near Absolute--An overkill ability to inflict 100 to 200 million fatalities by a factor of two or more (p. 36).

There are a broad range of instances in which a Minimum deterrence can work and a small range of contingencies in which even a Near absolute deterrent will not work. Probably it is better to be higher on the scale than lower. The amount needed to deter can only be answered by relating it to the crisis. An American president might be reluctant to reply to a

surgical CF strike, if he has only the option of an all-out attack. Reciprocal attacks are the obvious response. A nuclear talionic reprisal might terminate the conflict (p. 37).

The idea that deterrence requires absolute assurance or just possible consequences are polar positions. Most situations will be in the middle range with many variables such as fear of escalation and belief in its likelihood important. Escalation dominates the conflict if one side believes it can come off better than its opponent at any level its opponent will go to. The United States is now rapidly losing the threat of preventive attack which has been ours since 1945 (pp. 37-38).

War termination is closely linked to the specific circumstances of the outbreak of the war. The traditional scenario of a counterforce war usually begins with a crisis and intense provocation, an ultimatum, a constrained counterforce attack by one side, a continuing controlled response or calculated war, and then deescalation or escalation, cease-fire or all-out war, followed by exhaustion or collapse. It assumes both accept the idea of limited war. Most people doubt the possibility of limited TN war but look at the limits in Vietnam or even World War II. Even prolonged campaigns may be possible. Even a war where there is much disparity on one side may be limited--a U.S.-Chinese war, for example. The United States is not likely to kill hundreds of millions of Chinese even if the Chinese destroyed an American city. It would cause great repercussions in the non-white world, in the Soviet Union, and even in Western Europe (pp. 67-71).

The idea of mixed counterforce and countervalue attacks in a TN war is not so much a strategy as a feeling. Cities have relatively limited military value. There may be some truth to the idea that attacks on cities might lead to surrender or compromise, but it is more likely to lead to a tit-for-tat response and then a cease-fire. It is more a survival of World War II, however, than a credible victory theory. Environmental counterforce attacks probably have more chance of success. All failure mechanisms are not yet known and failure of a weapon on one side might end a war quickly (pp. 72-74).

The threat of total destruction is an effective deterrent but most strategies would oppose near-doomsday capabilities because of the danger of accidental war or war by miscalculation (p. 74).

The attempt to rationalize war, even nuclear war, is not as critics charge inhumane. Leaving the enemy population alive can spare our own and our allies, and protection of the people from military attack is the business of Government. Civilian target avoidance could reduce deaths to the 1-20 million range and "this would be no mean achievement." The United States and the Soviets may agree on an open city doctrine. Wartime production and morale are irrelevant (pp. 91-97).

Civilian sanctuaries can be defined geographically. There may be provision for warning before attack. The largest cities can be evacuated in 24-48 hours if preparation is made in advance. An understanding can be arrived at in which the weaker side can spare cities. The winner of such a war might force the loser to evacuate. Acceptance of an explicit sanctuary policy is rather remote now (pp. 97-98).

In the event of tactical nuclear weapons use against NATO, a sanctuary in Eastern Europe might encourage the peoples of Eastern Europe to revolt against the Soviets. If cities are to be struck, we might adopt a sanctuary announcement policy that brings these attacks to an end (pp. 100-102).

CF attacks could be used to defeat China if combined with a sanctuary policy and limited countercity attacks. We might detonate a bomb 500,000 feet over Peking and declare that only U.S. restraint is saving the people of China from destruction. Chinese leadership may be forced to give in by popular pressure if we were to announce that ten cities were possible attack targets and then attack one as a demonstration and put delayed-action bombs on three others. The policy of granting sanctuary to the rest would emphasize U.S. self-restraint (pp. 107-110).

The traditional outbreak scenario for a controlled war begins with an ultimatum and ends with either a cease-fire or a spasm exchange. If

one side believes it is winning such an exchange, it may use countervalue attacks or the threat of countervalue attacks to force its opponent to surrender. It might threaten or appear to be losing control of the conflict. Temporary deescalation with political shows of force are also possible. Theater campaigns may be going on and they may decide important issues. If an ultra-controlled war eliminates fear of escalation completely, ending the conflict may be much more difficult. If one side is clearly on the top, a negotiated cease-fire is more likely (pp. 76-77).

Only a great change in the current environment or attempts to exploit the seeming stability of the balance of terror by threats could cause a TN war. It would probably take a leader something like Hitler to purposely initiate this kind of conflict. If so, one could imagine a TN war beginning and developing much like the chain of events in the 1930s including a phase of phoney TN war. If we really felt this was possible, we would be much more concerned about damage-limiting and warfighting capabilities. There would be more study of how wars might start, be fought, and be terminated. There would be less emphasis on meeting current threats and this would be desirable. The most expensive part of a damage-limiting system might not have to be paid for until a war was actually begun--city evacuation, for example (pp. 72-82).

By maintaining deterrence we maintain the capability to do massive damage if war occurs. It is generally accepted that any action on our part can be nullified by some action on the enemy's part. Does this really apply to the upper levels of the arms race or to mobilization in time of crisis? What value are forces that threaten other parts of the world? Is massive mobilization in time of crisis destabilizing? People are easy to protect and this makes some elements of Assured Destruction unworkable. We would get no more than 50 to 500 people per megaton if population were dispersed and no more than 100-10,000 if they were sheltered. We can probably provide recuperation for controlled attacks of up to 10,000. Environmental damage from larger attacks are important possibilities. Doomsday machines must be considered (pp. 86-88).

There was only slight consideration of limited war in the United States before World War II and Korea. The development of the H-bomb changed that significantly. The nuclear age has made even World War II seem limited. Yet at the same time it has reduced the willingness of people to accept even World War II levels of casualties. Because of the very hostile world reaction we would probably not even use nuclear weapons on an all-out level against China even if she destroyed an American city. U.S. society is deeply moral and such an act would hurt it. A victor may want to maintain some strength in the vanquished because he wants to see him have enough postwar strength to prevent a power-vacuum anarchy in some part of the world or to maintain him as a buffer against a third power. The victor may not want to go through the trouble and the expense of ruling the defeated (pp. 100-116).

Before Vietnam the United States preferred introducing force in small increments. Public opinion wanted to get it over with quicker. They may not be wrong. Even in a nuclear war "there may be cases where, even from the viewpoint of trying to limit [ultimate] escalation, and possibly even in the interest of minimizing violence and harm to the enemy it may be better to have the initial escalation a large one" (p. 118). Small steps may convince the enemy that you are frightened. They may even encourage the enemy to try more since he has gotten away with the first round. Skill in escalation depends on showing lack of concern or consciousness of the structure of the situation. Yet convincing the enemy you are mad or out of control can have the opposite effect. It can eliminate your opponent's restraint, make bargaining harder, and alienate allies and neutrals. It may hurt one's public support. The public will never again accept unconditional surrender as a war goal. Appearance of irrationality on one side will convince the other that its choices are extreme ones (pp. 118-120).

In any TN war tactical requirements should not overshadow the issues involved. Competition in risk taking should not become a substitute for realistic war aims. The purpose of a war is to determine the outcome of a specific conflict (p. 121).

Small attacks are less immediately escalatory because they produce less damage and can set up a tit-for-tat response sequence. They may create great confusion. They preserve forces for a restoration of the balance of terror and the postwar deterrence of third parties. They also preserve one's flexibility (p. 122).

In a TN war, one needs communications just when it is traditional in warfare to break them off.

This discussion has been dominated by the premise that TN war is unlikely. Issues that could cause one do not exist. The current international political balance is reasonably acceptable to all sides. It is not like the situation before World War II in which criminal states existed. The United States is unlikely ever to initiate a strategic war (pp. 125-126).

The only rules for a TN conflict come from analysis, custom, and history. We should not be slaves to these rules but we should emphasize custom when it is useful. No one can produce a theory that can guarantee success especially if your opponent is using the same theory. Actions to be effective probably should not be clearly identified. U.S. escalation in Vietnam was correct according to theory, but tactically in error (pp. 132-133).

Controlling Assumptions

General nuclear war is very unlikely but it may occur, and we must make an effort to limit its consequences and terminate it if it does. The whole question of thermonuclear war is dominated by uncertainty. No one can produce a workable theory for termination because it is linked to the specific details of outbreak and the effect of various types of actions which can never be completely calculated. But intellectually it is possible to distinguish various types of outcome which will result from waging the war in various ways. It is not desirable to ignore or blur these theoretical distinctions.

Implications for War Termination

The problem of TN war termination is very complex. We have no historical analogy to the problem. The aim of TN attacks is to weaken enemy morale by inflicting pain. Tit-for-tat retaliation in a limited TN war may be a means of limiting violence. Terms for ending a TN war could be a simple ad hoc cease-fire or a conditional cease-fire. Irrationality, faked or real, may be a major bargaining advantage. Limited nuclear war is more a test of will than of military capability. A conditional cease-fire will be more difficult to achieve than an ad hoc cease-fire. Nuclear war might ratify a victory in a conventional war, or the nuclear phase may be ended while the conventional phase continues. The issue over which the war began is likely to fade while war termination is likely to be the major objective of both governments. If this is the case the most likely form of termination is a non-conditional cease-fire.

In limited TN war, intrawar deterrence is vital. Military considerations are subordinate to political considerations. In the bargain process one can engage in slow-motion war, mobilization, special attacks, and messages or in increasing or reducing the uncertainty of the situation. Threats can be made against the enemy's values, his threat capability, or his strategic threat. If one side feels its weapons or resolve will soon become vulnerable, it is likely to settle the conflict. There is a possibility that one or both sides will be swamped by fear or popular upheaval at very low levels of nuclear violence.

War termination is likely to be linked to the specific circumstances of the outbreak of the conflict. Attacks on cities might end the war by one side surrendering but it is more likely to lead to a tit-for-tat response with an ad hoc cease-fire.

Command and control problems in war termination are considerable. The slow application of force can be counterproductive as it was in Vietnam.

Recommended Strategic Force Options

Kahn, Stillman, and Pfaff make no specific recommendations as to force posture. The idea of a mobilization base is endorsed as is the general idea that thermonuclear war should be taken more seriously. The authors believe having more strategic capability is better than having less, but they endorse no specific level of counterforce capability as being desirable. They also recommend the study of environmental attacks.

Herman Kahn, "Thermonuclear War Termination," Annals of the American Academy of Political and Social Science (November 1970).

Summary

Today, thinking about thermonuclear (TN) war termination is unthinkable. This is unfortunate because much tragedy in war occurs because problems are not thought out in advance. The world is likely to be a safe place for the next decade or two, but there is a chance of a TN war before the end of this century. Part of the current relative safety has resulted because Governments saw problems and took action to meet them. Today the debate is at a much lower level of sophistication. A very simplistic picture of TN war exists at the OSD and the Pentagon. It involves the idea of war through accident or miscalculation. The war would be an uncontrolled spasm of violence (pp. 134-136).

This picture of total violence may be reasonably accurate but it may be a self-fulfilling expectation. Public opinion may be so hostile to even the use of nuclear weapons that their use might cause a great change in the international system. A "never again" response may result. Nuclear conflict may be won by the side that appears reckless: it might be used to end a conventional war; it could be used to induce the loser to accept an ad hoc cease-fire; it could result from a crisis eruption (pp. 136-139).

One of the most discussed techniques of waging limited nuclear war is talionic reprisals. It may be a nuclear peace-keeping device because it is a mechanism for bringing the war to an end. Tit-for-tat feuds have more often limited violence than escalated it. Exemplary and reprisal attacks are all talionic in nature, but not vice versa. Reprisals are a familiar concept in 19th century diplomacy, and they have a built-in limiting device because they are supposed to be linked to an enemy act. Clandestine attacks are also possible. Another form of attack would be noblesse oblige or potlatch attacks. They may be related to a desire for future concessions (pp. 140-143).

TN war involves a competition in bearing pain or costs. The aim of limited attacks is to weaken morale or will. Both sides have large

resources but they do not want to commit them because they fear the result. Competition may be in the form of bearing pain or risk taking. Fear of escalation may play a major role. Faked insanity can also be an effective tactic. There will always be residual fear of nuclear war no matter how stable the balance becomes. Each side does not know the effectiveness of the other's weapons. Even if mutual overkill existed by a factor of ten, nuclear threats could still be exploited for political leverage because of residual fear of spasm war. One side can increase fears of war, stage an accident, manipulate arms control movements, etc. (pp. 143-148).

In limited nuclear war, tit-for-tat strikes are more likely than tit-tat-tit strikes. A nuclear fireworks display also might be very effective. Once conflict begins, it might be ended by an ad hoc cease-fire or a conditional cease-fire, or the war might continue. The situation is likely to be very emotional. There is likely to be a sense of pyrrhic victory or disastrous failure irrespective of the amount of damage. This is likely to put great pressure on decisionmakers. The risk of spasm war may seem overwhelming. In many situations, "stop the war" is likely to be the overwhelming motivation of both sides (pp. 149-150).

Terms for ending the war could vary greatly: the terms could be nonconditional cease-fire; or they could be conditional. It would probably be ad hoc, simply because even simple cease-fires would be difficult to reach. An imbalance in military power may exist but it may have little effect on the outcome of the negotiations. The worth of the political objectives of the war will sharply decline in relation to the costs of continuing the nuclear exchanges. Any pause will allow the mobilization of a protest movement. International protest may prevent the restarting of hostilities. The winning side has an interest in a conditional cease-fire. Pressure will mount internationally against the more reasonable side to end the conflict. The aggressor in a nuclear conflict even if he got his way could face a Cold War, rearmament, or nonmilitary reprisals. A cease-fire might be concluded on the nuclear level while the war continues on a conventional level. The winner in a conventional war can use a nuclear exchange to ratify his victory. If

(a cease-fire is the overriding goal of decisionmakers, it will be difficult to bargain. Battlelines at the time of a nuclear cease-fire might remain indefinitely. A side that disregards a cease-fire might lose very badly on the international political level. Another incentive for a cease-fire might be the fact that it was unclear if the winner could keep on winning if he continued the war. A threat of resuming a nuclear war after a pause may not be credible. Conventional forces even in a nuclear crisis may provide the only forces that can change the outcome. Nuclear weapons might simply arrest the action of a conventional war. A drastic recalculation of objectives is likely to take place in the event of nuclear escalation (pp. 150-153).

In the event of deescalation of a nuclear conflict, the higher the intensity of the conflict, the greater the chance it will not reescalate again. Leaders of both sides may feel that they must do away with the causes of nuclear conflict. Extreme international pressure may occur against any kind of risk taking (p. 154).

Both the conventional and nuclear phases of a war are independent of each other and may be won or lost. Victory at one level may be purchased by defeat at another. Russia, for example, might control a part of Europe despite a large scale of nuclear destruction. There may be changes of Government in a nuclear war. The winner may be generous. Restoration of the status quo ante will always look like the most salient terms (pp. 154-155).

In any nuclear war the "irrational" side always has the advantage. Irrationality or callousness may allow him to win a cheap victory. It is also possible that both sides may achieve their minimum war aims or both sides may fail. Great damage may or may not occur. There are three real outcomes: physical, political, and psychological. The overall success or failure of a nation in a war depends on all three. They can be won or lost independently. The outcome must also be compared with what might have happened without the war (pp. 155-157).

There is also the possibility that the outcome will be much better than is expected because most people expect total destruction (p. 158).

Situations that tend to favor an ad hoc cease-fire include: mutual shock; too much civilian damage; fear of escalation; other costs become too great; objectives of the war achieved by one or both sides; retaliation has been equitable; theory of victory or safety fails; the fact it seems more feasible than a conditional cease-fire; the military or bargaining position of one side does not seem likely to improve (pp. 158-159).

Mutual shock could occur at a very low level of nuclear destruction. It is as likely to occur at very low levels as at very high. Anger is likely to be swamped by fear. An unwillingness to accept further danger can offset military superiority. Low-level war may be more a test of will than of military capability. Structural stability of the governments involved is very important. The stability of the Chinese and Russian Governments may be less than our own. In a slow-motion war, pressure is likely to arise internally or from one's allies. Nuclear first-use may create a great international reaction (pp. 159-160).

Nuclear attacks may cause political upheavals. Germany was a much more stable society in 1914 than the United States is today but it collapsed in World War I. It is an open question how U.S. leaders would react to large-scale destruction. Attacks on cities may be counterforce attacks by indirection--immobilizing the enemy's weapons by breaking his will. Chinese and Soviet leaders may be more willing to cut their losses than U.S. leaders.

One major problem in ending nuclear wars is that they are likely to be transcultural. Value systems differ. Surrender, for example, was a crime in Stalinist Russia in World War II. World War I destroyed the culture of the 19th century. A nuclear war might do the same. Totalitarian states may be better at it because of perseverance and decisiveness. Nuclear weapons may be difficult for a rational side to use because their use may demonstrate irrationality.

Termination of a war by proportional attacks might be difficult to achieve. Will the shock of a demonstration end the war? Cities are tied up with emotional values. If large targets are attacked the only distinction may be between spasm and less than spasm.

The failure of a victory strategy may end a war. Military failure would probably result in scaling down of political demands. Noblesse oblige may be satisfied, being a pretext to stop the war.

Even achieving an ad hoc cease-fire may be difficult--command and control of nuclear forces. Even a side with bargaining power might not choose to use it for this reason. The risks of negotiations may seem very large in comparison to possible gains.

Nuclear war outcomes should be studied more. There should be more emphasis on retrofit capabilities and on a mobilization base. The existence of such a base may be a major deterrent to attack. Pressure for preemption may be greater during a period of mobilization. Congress might authorize a trillion dollars in a crisis and this would dramatically change the balance of power in three years if preparation had been made.

Controlling Assumptions

Nuclear weapons are qualitatively different from conventional weapons. The most likely reaction to their use will be intense fear and caution. Our potential enemies--the Russians and the Chinese--will always be more ruthless in their willingness to use them and sustain injury than we will be. The whole question of nuclear warfare is dominated by uncertainty and we can never be sure how such a war would develop and be terminated.

Implications for War Termination

The termination of a nuclear conflict will be very difficult. Tit-for-tat reprisals may be an important war limitation device. Irrationality or faked insanity may be an important factor in determining the outcome of a nuclear exchange. Limited nuclear war is more a test of will than a test of military capability. Fear of nuclear warfare may be so great that even the side with the superior military capability might not use it to achieve diplomatic gains during negotiations. A conditional cease-fire will be more difficult to achieve than a non-conditional one, but both will be hard to achieve. Nuclear war might

ratify a victory on a conventional level or freeze the result of a conventional war. It might bring a conventional war to an end--or the conventional war might continue while both sides retreated from nuclear combat. War termination may be the most important objective of both governments. If this is so, the most likely type of termination is nonconditional cease-fire.

Recommended Strategic Force Options

No specific strategic force options are recommended. The author believes Assured Destruction is an inadequate strategy and advocates that the United States spend \$1 billion a year that could create a mobilization base which would give us the ability to greatly expand our forces within a one-year period. Such a mobilization base might in some cases be used as a form of surrogate warfare. We must study the problem of war termination further. We should develop programs for rapid-response, damage-limiting capabilities that could be mobilized during a crisis.

Alexander L. George, David K. Hall, and William Simons, The Limits of Coercive Diplomacy (Boston: Little Brown and Company, 1971).

Summary

There are several basic national strategies for the utilization of military power. They include: destruction of the armed forces of the enemy by decisive military action; coercive diplomacy; and attrition. Coercive diplomacy seeks to use force as a psychological instrument to persuade rather than to bludgeon an enemy into doing something one wants him to do. Coercive diplomacy uses the carrot and the stick technique (pp. 16-25).

There are two versions of coercive diplomacy. The strong variant uses military power to support a quasi-ultimatum. The weak approach is essentially a try-and-see approach. The strong version has much similarity with the game of chicken. In Laos and Cuba, Kennedy used the strong approach. His success encouraged Johnson in Vietnam, but Johnson used a weak approach (pp. 25-30, 211).

Only seldom has the United States been able to use coercive diplomacy in the strong variation. In these cases U.S. motives were strong, there was an asymmetry of motivation favoring the United States, American objectives were clear, we had adequate domestic support, usable military options were available, our opponents feared possible escalation, and we were clear in the precise terms of the settlement we wanted. We can use an ultimatum only when truly vital interests are at stake. Strong motivation is not enough, as Vietnam proves. In Laos and Cuba, we had clarity of purpose--but not in Vietnam. Political support existed in the two former but not in the latter (pp. 8, 214, 216).

Coercive diplomacy is most successful if the limited small steps taken at first arouse the opponent's fears of escalation. This was true in Laos and Cuba but not in Vietnam. We had much more precise terms in mind in Laos and Cuba but not in Vietnam (p. 225).

The use of the ultimatum creates a conflict between crisis management and coercive diplomacy. It is a danger to the former and necessary for the latter. Timing of strong coercive threats is very important.

There are many risks in an ultimatum, and responsible leaders draw back from it. There are many difficulties in interpreting moves. In Vietnam, Johnson's far-reaching goals strengthened enemy determination. A strong strategy of coercive diplomacy was originally tried, but Johnson soon moved away from it (p. 235).

Coercive diplomacy is attractive because it is often a very cheap way of achieving your objectives. Skill and a good knowledge of the enemy is necessary to make it workable. Military power is of greater use to coercive diplomacy when it is not used frequently. It is wise to threaten only in behalf of vital national interests (pp. 250-251).

Controlling Assumptions

The basic underlying assumption is that war and threats of violence should be considered politics by other means. Much of this study of "coercive diplomacy" rests on the assumption that Laos 1961, Cuba 1962, and Vietnam 1965 are typical crises from which a general theory of coercive diplomacy can be determined.

Implications for War Termination

The United States should introduce force or threats of force only when certain conditions exist: (1) U.S. motives are stronger than the enemy's; (2) U.S. objectives are clear and urgent; (3) the U.S. Government has usable options in the military sense; (4) the opponent has an unacceptable fear of escalation; and (5) we are clear on our war objectives (p. 216).

Recommended Strategic Force Options

No strategic force options are recommended. The authors play down the role of strategic power in coercive diplomacy.

Fred Iklé, Every War Must End (New York: Columbia University Press, 1971)

Summary

Most wars are initiated with little or no thought about how they are to be terminated. There is usually little or no thought beyond the opening military campaign, especially on what to do if the war is not brought to a successful military conclusion. During a war, military planning is mainly concerned with the day-to-day battle and ignores the war as a whole. Civilians are often ignorant of basic military facts. Battles won are desirable only if they contribute to ending the war on the terms one desires. If not, they are counterproductive. It is difficult to determine what the enemy strength is or how much of his resources he will mobilize. It is also difficult to determine the effect of a military campaign on the course of the war. What will the enemy do? How accurate are intelligence estimates and which estimates should one believe when they conflict? (pp. 1-35).

The terms one can settle with the enemy on are frequently obscure. Both sides infrequently commit all their resources to a war effort; hence there is always the threat of escalation involved in it. Escalation may be gradual or rapid. Deterrents to escalation are other threats which force the retention of reserve military power: fear of harm to one's own country, fear of the cost of such actions, and fear of enemy counterescalation. The value of escalation is often difficult to calculate. The threat of escalation is often superior to its use (pp. 36-58).

Since the price of ending a war usually entails concessions to the enemy, it always marks a struggle between Hawks and Doves, "Patriots" and "Traitors." The accusation of treason often is closely linked to concessions to the enemy. The nature of the struggle depends on the power structure. The image of treason helps commit a nation to a hopeless war. Many Governmental leaders will oppose any negotiations with the enemy while the war continues. On the other hand, sometimes one side does not want to accept a cease-fire as a precondition to negotiations. The basic facts of the situation may be too painful to bear. Much could have been done to end the Korean war without the great casualties of the last two years (pp. 59-83).

Fred Ikle, Every War Must End (New York: Columbia University Press, 1971)

Summary

Most wars are initiated with little or no thought about how they are to be terminated. There is usually little or no thought beyond the opening military campaign, especially on what to do if the war is not brought to a successful military conclusion. During a war, military planning is mainly concerned with the day-to-day battle and ignores the war as a whole. Civilians are often ignorant of basic military facts. Battles won are desirable only if they contribute to ending the war on the terms one desires. If not, they are counterproductive. It is difficult to determine what the enemy strength is or how much of his resources he will mobilize. It is also difficult to determine the effect of a military campaign on the course of the war. What will the enemy do? How accurate are intelligence estimates and which estimates should one believe when they conflict? (pp. 1-35).

The terms one can settle with the enemy on are frequently obscure. Both sides infrequently commit all their resources to a war effort; hence there is always the threat of escalation involved in it. Escalation may be gradual or rapid. Deterrents to escalation are other threats which force the retention of reserve military power: fear of harm to one's own country, fear of the cost of such actions, and fear of enemy counterescalation. The value of escalation is often difficult to calculate. The threat of escalation is often superior to its use (pp. 36-58).

Since the price of ending a war usually entails concessions to the enemy, it always marks a struggle between Hawks and Doves, "Patriots" and "Traitors." The accusation of treason often is closely linked to concessions to the enemy. The nature of the struggle depends on the power structure. The image of treason helps commit a nation to a hopeless war. Many Governmental leaders will oppose any negotiations with the enemy while the war continues. On the other hand, sometimes one side does not want to accept a cease-fire as a precondition to negotiations. The basic facts of the situation may be too painful to bear. Much could have been done to end the Korean war without the great casualties of the last two years (pp. 59-83).

The need to deter a war is particularly compelling when both sides have nuclear weapons. World War II has discredited the ideas of territorial concessions as a weapon to prevent wars. It has become identified with appeasement. Deterrence must reinforce appeasement in preventing war. The exclusive reliance on nuclear deterrence has become more dangerous with the growth of nuclear arsenals. It remains questionable whether the execution of a retaliatory threat is meaningful once deterrence has failed (pp. 107-123).

Retaliation could be simple revenge, but the national leadership is likely to give more thought about what the postwar situation would be like and what implications our use of military power would have for it. They might be far more interested in saving what had survived than in punishing the enemy (pp. 122-124).

The more prolonged and fierce the fighting, the less chance there is to return to the prewar status quo. As the suffering on both sides increases, political leaders tend to escalate their war aims. Each side is reluctant to accept even partial defeat. There are differences in thought patterns between national leaders. There is always the danger of another Hitler. How would we deal with him? Our Assured Destruction strategy is "a tragic paradox of our age..." (pp. 123-129).

Controlling Assumptions

War, especially in the nuclear age, must be prevented, or, if it occurs, terminated rapidly. There has been little thought by scholars and statesmen on the termination of wars. This is a very dangerous situation. Termination of an unsuccessful war can be very important because wars can have catastrophic effects on the peoples involved.

Implications for War Termination

We must make credible plans for terminating wars before we become involved in them. The process of termination is very difficult. We must make efforts to improve our war planning and intelligence gathering. We should seek to reduce the damage of war as much as possible because large-scale damage tends to contribute to escalating war aims on both sides and

this makes the war harder to bring to an end. Concession to the enemy should not be branded as treason. Once a war has begun, the issue of revenge is less important than the shape of the postwar world. An Assured Destruction strategy is quite dangerous from the standpoint of war termination.

Recommended Strategic Force Options

The author makes no recommendations concerning strategic force options. He does believe that an Assured Destruction strategy is inadequate and that we must have other options. Concerning the subject of war termination, he believes that much additional thought must be given to it. We should never enter a war without a firm idea about how it can be terminated. Concessions to the enemy should not be branded as appeasement or treason. But we also must be prepared to deal with another Hitler.

W. S. Bennett, Hostilities Objectives of Theater Forces (Mimeo., 1972).

Summary

We must develop clear objectives for the guidance of our military forces. For an objective to have value, it must provide guidance on both means and ends. It should be designed to be useful on the level of a NATO commander although it may not affect the activities of the lower levels of command (pp. 1-4).

The idea that political objectives in war can be achieved without defeating the enemy is as old as the Byzantine Empire and Machiavelli. The U.S. approach to war--bludgeoning the enemy into defeat--is inefficient and dangerous in the nuclear age. The idea of victory in the old sense may be responsible for the fear of nuclear arms and our emphasis on reaction rather than initiative. The idea of total victory and defeat is largely a myth. "Nuclear war is not conventional war warmed over. Even conventional war in the nuclear age is not conventional war in the pre-nuclear age" (p. 7).

"Controlled termination as an objective is defined as the use of military force and political initiative to induce an enemy to cease his military hostilities on conditions acceptable to both sides, while minimizing cost to ourselves, and while both sides still have the military capabilities to continue hostilities if either so decided" (p. 7). The enemy must be induced to cease his military activities. He must be made to see that it is in his interests to do so. "Termination implies a contest of will, determination, resolve, and risk taking" (p. 9). It involves taking the initiative. The objective is not to force his surrender--unless this objective can be accomplished at a very low cost. We induce him to stop by threatening greater harm if he does not and by creating conditions at the time he stops that are politically advantageous to us (pp. 9-10).

Acceptable does not mean desirable or favorable--it means livable. We can plan our defense to help create those conditions. The conflict should end before cost outweighs any possible gains. The real trick is

to terminate it while the enemy still has viable options left. We must be able to practice intrawar deterrence and this will not require less forces. We must have abilities to back up our threats without introducing strategic forces (pp. 11-13).

Inducements for the enemy to quit entail limits on our own actions. "Limitations on our own actions must be risked to give him incentive to quit instead of fighting; so he fears the worst yet to come instead of reacting in anger to the hurt he is suffering" (p. 14). Such actions are risky because they avoid destroying an enemy's military power. While doing so we must take action to make ourselves less vulnerable (p. 14).

The ability of defending forces to keep fighting is probably a necessary condition for termination. The enemy is more likely to terminate when the defending military forces are strong. Could the enemy exploit the knowledge we are not out to destroy him? The Soviets could never be sure that we would not escalate their efforts in response to such a strategy of ours. It is unlikely that they would bank their future on anything as unpredictable as our own actions. If they try to exploit this we must take the initiative. If he tries to get more than we can give, we would continue the war. As the conflict continues, a lack of enemy fear of escalation to the strategic level will make termination more difficult. Since the enemy is unlikely to be able to avoid the fear of strategic war, limited strategic operations may be very useful in terminating the conflict. The termination concept involves risk of escalation but less than the victory concept (pp. 15-16).

The termination concept uses the fear of preemptive war as a psychological weapon. If the enemy is completely irrational or ideological, the termination concept will do no worse than any other concept. The termination idea will assume that people will act in their best interests. Even if we assume the Soviets would react with a massive response, we do not have to preempt. If there is the slightest chance to avoid massive destruction, we should take it (pp. 18-20).

In the event of failure of deterrence, we must establish dynamic deterrence by exploiting the fear of general nuclear war by limited use of nuclear weapons. It could be used for the objective of controlled termination. It could be used as a prelude to negotiations toward a favorable settlement even when the defender is at a disadvantage. It is a strategy, not an objective, of limited nuclear war. We cannot incur the risks of an unconditional surrender objective. The goal of a siege--attrition strategy--is to force the enemy to surrender by destroying his military forces. Logically the more punishment we throw at an enemy the greater his willingness to surrender should be, but we must estimate his attachment to the possible gain he is fighting over. Even if we went all out, the Soviets could do a great deal of damage in return (pp. 21-27).

We have no evidence that the Soviets would lose such an exchange. It might escalate into a general war. The political decision to use tactical nuclear weapons should be based on the termination criteria. Their objective should be to terminate the war. The statement of objectives should be made at command levels and include costs we are willing to incur and risks we are willing to take. Tactical nuclear weapons can not replace conventional forces. A warfighting capability contributes to both denial of territory and controlled termination. It is a more credible threat than strategic action (pp. 31-33).

The more credible the warfighting capability, the less credible is the threat to escalate. The availability of limited strategic options could change this. If theater forces were defeated, however, a strategic option might look useless (pp. 34-35).

Controlling Assumptions

The potential lethality of nuclear warfare eliminates victory as a logical objective. Any chance to limit the damage from nuclear warfare must be taken even if there are tactical risks involved. The objective of the United States should be to terminate, not to win, a theater nuclear conflict.

Implications for War Termination

The author argues that the objective of war termination should be our central objective, not the defeat of the enemy. An all-out campaign aimed at his defeat on a theater nuclear level could escalate to general war. We must work for an acceptable outcome. Acceptable does not mean desirable but livable. Limitations in our own actions are the major inducement to the enemy to limit his actions and objectives. The more damage done, the less chance a war can be terminated without disaster. The ability of defending forces to keep on fighting is probably a basic objective because it is necessary for termination. We must exploit the enemy's fear of escalation to bring the conflict to an end.

Recommended Strategic Force Options

The author makes no specific recommendations about strategic forces. He believes tactical nuclear forces are not a substitute for conventional forces. The objective of a theater nuclear war should be the defeat of the enemy by the termination of the conflict. We should work towards this objective even if it entails some risk of a tactical defeat. A warfighting capability is needed both to deny the enemy victory and to terminate the conflict.